



AM Stereo — Another Step Forward

The Windsor Conference sponsored by CAB proved to be a significant step in clearing the way for an AM stereo system standard for Canada. The exchange of ideas and information provided at least preliminary answers to a number of questions regarding audio processing techniques, anticipated receiver features, and the acceptability of station "sound" on both existing mono and future stereo receivers.

CAB's vice-chairman for radio, Jim Sward, in a decisive statement, indicated that CAB would do everything in its power to ensure adoption of a single standard as soon as possible in Canada and intended to exert pressure for adoption of this standard in the U.S.A. and elsewhere in the region.

The 69 attending included a good mix of broadcast, audio-processing, receiver and automotive interests, along with the four proponents; 42 Canadian and 27 U.S. delegates were present.

While the proponents and audio processor interests took full opportunity to debate the issues, some of the U.S. participants, particularly from the receiver and automotive suppliers were reluctant to provide other than prepared statements, a situation certainly understandable under the U.S. anti-trust constraints. Despite this, a good exchange of information was obtained.

It was stressed repeatedly that AM stereo is a system which requires a coordinated approach between broadcast and receiver interests. Presently, receiver bandwidths are made narrower to minimize adjacent channel interference problems, while broadcasters increase high frequency pre-emphasis to compensate for the narrower receiver response, thus increasing such interference. For AM stereo to compete with the excellent quality available on FM, this trend must be reversed and audio processing must be chosen so as to provide a reasonable compromise on existing

receivers, without sounding too shrill on future improved-response stereo receivers.

It is difficult to condense over 20 pages of notes and almost nine hours of tapes into a page or so, but the highlights follow.

The Competing Systems

The fundamental difference, it was explained, involves either "linear" or "non-linear" systems, the former producing a single pair of sidebands for each tone transmitted, the latter, additional sidebands. Systems involving carrier phase modulation create additional sidebands, the higher frequency ones being rejected by the AM receiver narrow sideband response. Magnavox (PMX) and Motorola are classed as non-linear. While such systems can compete very favorably with FM sound quality, given wide bandwidth receivers and little phase distortion between studio and radio listener, they have greater problems with narrow-bandwidth receivers, high negative modulation levels, and in particular with heavy sound processing and pre-emphasis at the transmitter.

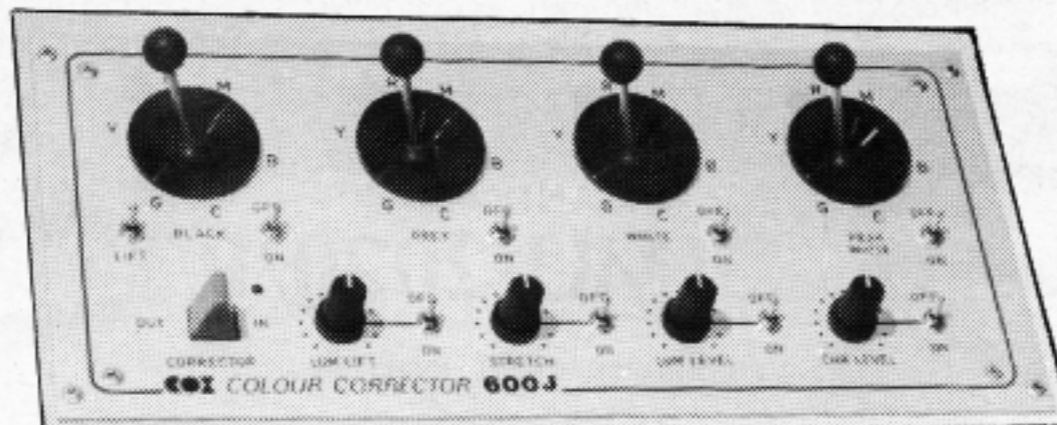
The Kahn system uses independent sidebands, left channel below carrier, right above, giving it some unique characteristics such as placing adjacent-channel interference off-centre, permitting some opportunity for tailoring response dynamically to minimize the interference, and taking advantage of the psycho-acoustical "cocktail party" effect, that of the ear ignoring the sounds emanating principally from one side of the listener.

The Harris system uses quadrature modulation for the L - R channel, making it linear and able, along with the Kahn, to transmit heavily-processed audio with less distortion from the receiver bandwidth limitation, though the Harris has some distortion on current receivers using envelope detectors.



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It was clear from the interchange of opinions that all systems, to various degrees, suffer under adverse signal conditions, but that receiver design innovations could minimize these problems to some extent. Some receiver options are more effective on one system than on another.

Receivers To Be Much Improved

AM performance has been allowed to deteriorate substantially over a number of years, the dollars being spent on improved FM and cassette quality, on speakers, and on audio power capability. But frantic efforts are now being made to upgrade AM performance.

Synchronous detectors, wider and variable bandwidth IF stages, 10 kHz filters and improved audio equalization can be anticipated in the higher price ranges. Electronically tuned (ETR) receivers will replace mechanical, and are considered essential for AM stereo by automotive interests.

It appeared that Delco's choice of Motorola over Harris and Magnavox, after a very complex series of tests, was based to a significant degree on trouble-free positive automatic lock-up on a stereo station under conditions ranging from good to adverse. But one wonders whether broadcasters' criteria would not emphasize the ability to compete with FM quality, or to permit the processing required to retain adequate response on current receivers, as more significant.

We were told that AM stereo would be highly competitive with FM in cars and in the \$150 to \$300 home receiver, particularly where the station formats were of a similar highly-processed nature, but that the AM share would be smaller in the high-cost "component" market and for classical music enthusiasts. A University of Windsor survey where listeners compared CKLW stereo using the Harris system to their favourite FM stations, using a high quality wide bandwidth AM receiver, showed surprising preference (71%) for AM stereo, and a significant willingness to pay a substantial premium to obtain such AM performance. 72% would pay 25% more.

Audio Processing—A Key Ingredient

Greg Oganowski of Gregg Laboratories and Robert Orban of Orban Associates Inc. collaborated to present agreed response curves for today's typical receivers with recommended filter characteristics for IF and for audio response. Their processors are designed to complement such characteristics, and have sufficient adjustment to permit a range of musical format choices.

Ron Jones of Circuit Research Labs Inc. stressed the "new-broom" technique, saying that to compete adequately with FM, less pre-emphasis was needed, despite the lack of brilliance on today's car radios. This approach would, of course, be more attractive when using the non-linear stereo system.

There was considerable discussion about 5 kHz transmitter bandwidth limitation at night. The broadcast interests showed little enthusiasm, claiming that this would penalize the large majority of listeners in the good signal areas for the benefit of the minority in the outlying areas.

Towards a Single Standard

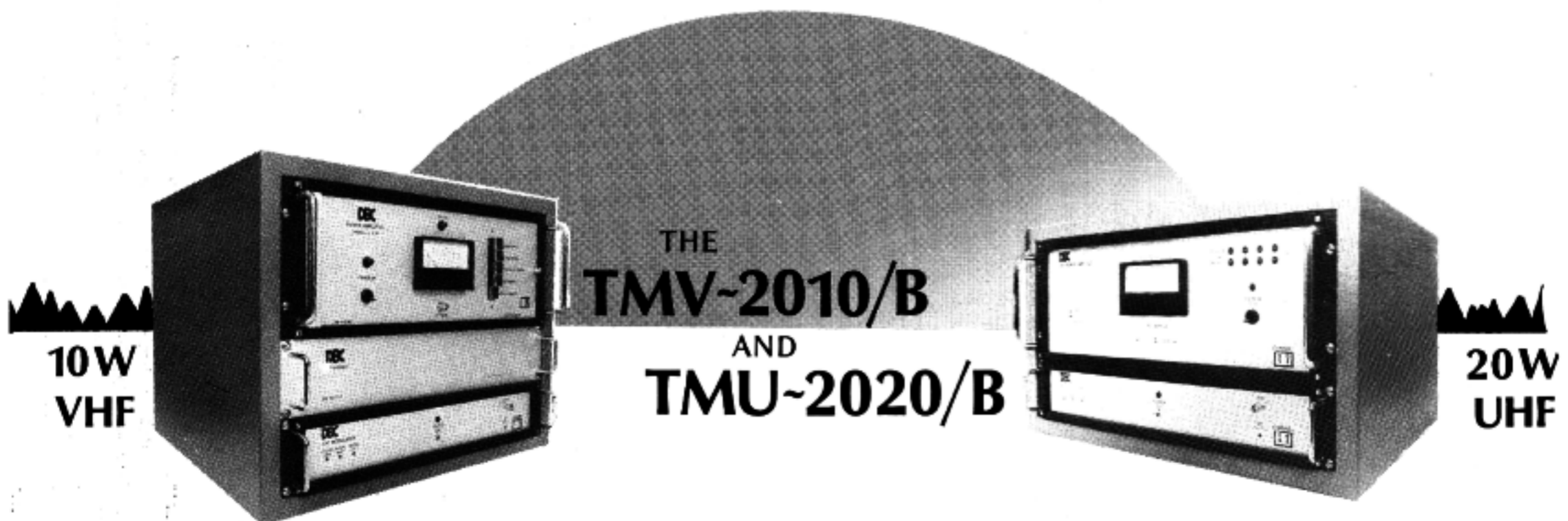
With a substantial number of stations of differing formats broadcasting the four systems, and with the availability of larger quantities of AM stereo receivers in 1983, including better quality multiple-system receivers, the chances are good that the remaining questions can be answered in 1983. The CAB, the CRTPB Committee, and the other Canadian interests will be expending maximum effort towards determination of the best system, and hopefully, this decision will not be long delayed.

The CAB is very thankful to the participants in Windsor, and in particular to those attending from the USA who were so very helpful in the discussions.

Sandy Day is Vice President of Engineering Services for the Canadian Association of Broadcasters. Readers' comments or questions may be addressed c/o CAB, Box 627, Station B, Ottawa K1P 5S2.

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AM Stereo in NAB Spotlight...Again

The saga of AM Stereo continues and, once again, a big draw of NAB's Engineering program was a lengthy session featuring reports by users and a confrontation of proponents. It was chaired by Michael Rau, NAB staff engineer.

CKLW STUDY IS HIGHLIGHT

By far the most interesting contribution to the discussions came from Ed Buterbaugh, director of engineering for CKLW Windsor, Ontario.

CKLW operates on 800 kHz with a 50 kw Harris MW50 transmitter; its directional 5-tower array employs different day and night patterns, both requiring all five towers. In 1978, a new antenna system designed for AM Stereo was installed and the intention was to test all five of the proposed AMS systems. As it turned out, only Harris provided the necessary cooperation; (CKLW produced a comprehensive report on its findings with the Harris system). The station plans to test the Motorola system in the near future; as Motorola is the system favored by Delco, the car radio division of General Motors, testing by CKLW should prove useful for the automobile industry in the Detroit-Windsor area.

Buterbaugh's update of CKLW experience included the following points:

- The Harris system performed well on both the old and new antennas systems. "If your antenna system works well in mono, chances are it will work well with AM Stereo, with the Harris system."
- Some listeners report that the station's mono sound is improved during stereo transmissions.
- In a study of how listeners perceive AM Stereo, conducted during an automotive show, the public was invited to compare AM Stereo with FM Stereo in a "blind" test. An astounding 71% preferred AM Stereo, while 21% preferred FM Stereo and 8% had no preference. "People couldn't believe they were listening to AM."
- Most of those who participated in the comparison tests indicated they would pay \$50-\$75 more for an AMS receiver.
- AM Stereo has the potential to become a high quality medium, especially in the mobile environment.

Robert Denney, technical operations manager of WBT Charlotte, NC, described WBT's experience with the Kahn system. It was installed October 15, 1982, taking three men 12 hours, has been in use 24 hours a day since, and is operating according to expectations. WBT opted for Kahn because

of its capability to be heard using two existing receivers; while WBT has placed orders for all systems, there is no intention of taking out the Kahn equipment at present. WBT's transmitter is also a Harris MW50.

Jerry Lebow reported on the Sansui receiver which can receive AM Stereo broadcasts using any of the systems. ("I wish we could have done it with quad a few years ago," he quipped.) The multi-system decoder was developed in an intensive effort by Sansui earlier this year, and demonstrations at NAB won favourable response. The unit will retail for about \$410 (US) and will be available in September, with a car model to follow in the fall. However, another Japanese company was expected to introduce a multi-system receiver at a price under \$100.

William F. Gilbert of General Motors' Delco Electronics division discussed his firm's \$300,000 evaluation of three systems, which favored Motorola.

Proponents' arguments

The session warmed up as the proponents got into the discussion—here are some of their comments:

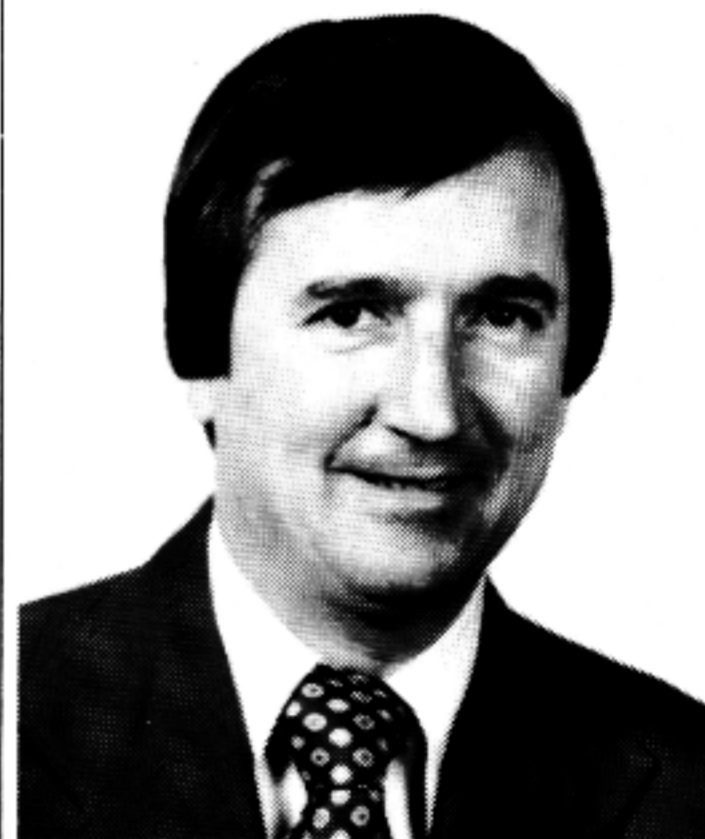
- Leonard Kahn—of 60 U.S. stations on the air with AMS, over 30 are using the Kahn system. Multi-mode receivers will drive out single system receivers, and as for Delco's choice of Motorola, "nobody in their right mind would buy it." Kahn, who said he offered 10 to 1 odds beforehand that Delco would choose the system made by "their big supplier" Motorola, went on to criticize Delco's methodology and predict that Delco, too, would make multi-mode receivers. Broadcasters would be free to buy any AMS system, just as they buy any transmitter. "The future of AM Stereo is in good hands: yours."
- Dave Hershberger, Harris—Reporting that Harris has orders for 157 systems, with 56 shipped, Hershberger outlined the advantages of the linear system and said the bottom line in evaluating a system is, "how does it sound?" He agreed that Delco must go the multi-system route, and termed its choice of Motorola "a multi-million dollar mistake."
- Bob Streeter, Philips Magnavox—Streeter expressed support for multi-system receivers, adding that they should have digital data capability. The Magnavox system, with exciter by Continental, is now known as PMX; it was selected by the FCC in the Commission's original short-lived decision on AM Stereo.

• Chris Payne, Motorola—Agreeing that the multi-system receiver was the big news of the convention and welcome news to broadcasters, Payne said, "You still have to choose a specific system to broadcast." He described the Motorola "C-Quam" quadrature system and criticized Harris as a "variable" quadrature system. On the air in six markets, with 12 more lined up, Motorola has licensed Belar, Broadcast Electronics, and TFT to manufacture exciters and modulator monitors. "We still think there should be a standard—not all receivers will be multi-system receivers."

• Arno Meyer, Belar—Noting Belar's "neutral" position, Meyer hoped "this mess" will be resolved with multi-system receivers. "We would like to see the best system, not for the broadcaster, but for the consumer."

During the question-and-answer period, Chris Payne commented that if the Sansui receiver does a good job on all systems, "they've done a remarkable engineering job." Reports indicate that the receiver favors Kahn and Harris signals, and is least effective with the Magnavox signal.

APPLIED ELECTRONICS APPOINTMENT



Mr. Mike Stechly, President of Applied Electronics Limited, is pleased to announce the appointment of Raymond Quesnel as Broadcast Sales Representative for the recently opened Applied office in Montreal. Mr. Quesnel, who has many years' broadcast experience will be responsible for marketing Applied's quality products throughout Quebec, the Maritimes and Ottawa. Mr. Quesnel can be reached at: P.O. Box 158, Ville Mont Royal, Quebec H3P 3B9, Phone (514) 277-1316.

AM Stereo with Directional Arrays

Abstract

Proper AM Stereo transmission using a directional AM antenna array prescribes that its quality-degrading factors be evaluated and corrected when necessary. These are "common point impedance", as to its potential effect on the operation of the transmitter, and "array bandwidth", the latter being dissected into the concepts of "pattern bandwidth" and "impedance and phase bandwidth of the Antenna Tuning-and-Phasing equipment" [ATP flatness]. An approach to the evaluation and improvement of array bandwidth is discussed.

The advent of AM stereo broadcasting requires a greater degree of transparency of transmission than that judged acceptable for monophonic broadcasting.

Aside from the usual studio and studio-to-transmitter link considerations, which are well known to broadcasters from their FM experience, AM transmitting facilities merit closer scrutiny than that generally afforded to monophonic transmission. One of the less well understood links of the transmitting system is the directional multi-tower array. The amplitude and phase characteristics of the radiated signal, over the whole channel, need be examined and evaluated. The purpose of such an assessment is to determine the capability of the array of providing a sufficiently faithful reproduction of the output signal of a properly adjusted transmitter and ensure adequate stereo performance at the receiver.

This article is limited to the treatment of directional antenna array characteristics and thus, except for the effect of the antenna on the transmitter, it is assumed that the transmitter would otherwise exhibit satisfactory amplitude and phase response, and incidental phase modulation performance into an "ideal" load, that is, one exhibiting a constant resistance and no reactance over the channel of interest.

Amplitude response and phase characteristics versus frequency of the transmission system including the antenna array are more critical for stereo performance than for monophonic transmission, since amplitude and phase relationships of all signal

components of the channel need be maintained to much closer tolerances to avoid serious degradation of the stereo signal.

Common point impedance bandwidth

The first parameter discussed—one more familiar to station technical personnel—is the common point impedance bandwidth of the antenna array as seen at the output of the transmitter. Imperfections of this load impedance, as presented to the transmitter, when considered over the bandwidth of the whole channel, have, to a varying and sometimes large degree, a detrimental effect on the performance of the transmitter itself. The resulting signal degradation varies with the amount and nature of the variations of impedance, as well as with the type of transmitter used. The resulting degradation can consist in deterioration of amplitude/frequency response and phase/group delay characteristics, in increased audio harmonic and intermodulation distortion and/or in the introduction of incidental PM on the signal.

A correction network can sometimes be custom-designed and inserted at some "common point" of the antenna system to synthetically improve the load seen by the transmitter and, as a result, minimize the degradation in performance of the transmitter.

However, the introduction of such a network represents only a partial solution as, more often than not, it merely masks an undesirable situation which exists in the antenna array, namely, an inadequate impedance-bandwidth of the antenna system, including its associated Antenna Tuning and Phasing equipment (ATP). This situation occurs when the ATP was designed without due consideration (if any) for antenna "array bandwidth".

Array bandwidth

Two particular aspects need to be understood when considering the less familiar concept of array bandwidth, so as to better visualize their respective effects.

An initial illustration can be made using the "vicious circle" type argument which follows: a modulation

or sideband component passing through an ATP having nonconstant phase shift and amplitude response will reach the various towers with a different phase and amplitude relationship than that at carrier frequency. The array parameters at this sideband frequency thus differ from carrier parameters. This results in different tower operating impedance characteristics,—principally due to that portion of the mathematical argument dealing with mutuals—a condition which, in turn, further aggravates the situation and results in severe impedance disturbances both within the system and at the common point. The different operating parameters of the array also imply a different coverage pattern for this modulation component when compared to that at carrier. Furthermore, although the same argument applies to the corresponding sideband on the other side of the carrier the effect for that component is not only different in magnitude but often opposite in trend, which does not help matters.

The two very much interrelated aspects of "array bandwidth" are therefore:

1) "pattern bandwidth" of the array, meaning the ability of the array to maintain a constant pattern for all signal components of the channel. It represents the main concern for good performance;

2) the *amplitude and phase* bandwidth of the ATP (ATP flatness), meaning the ability of the ATP to pass all signal components of the channel without timing or amplitude differences. It turns out to be the condition required to obtain pattern bandwidth.

Since pattern bandwidth means the degree to which the pattern of the array is maintained over the channel of interest as compared to that of the station's carrier frequency (f_c), a method to evaluate this condition would be useful.

If it is assumed that at f_c the desired directional pattern is being realized, then the practical question is: what is the pattern, say, at $f_c + 10$ kHz and at $f_c - 10$ kHz? As we can foresee, it can be dramatically different! This means that at sideband frequencies where the radiation pattern has a very different shape, nulls change in azimuth and



by Pierre Labarre, Eng.

depth sometimes resulting in large variations in frequency response *in the coverage area* of the station.

Evaluating pattern bandwidth

An evaluation of this condition can be made by operating the transmitter without modulation, *at very low power*, at frequencies of interest within the passband and recording changes in array currents and phases. Pattern calculations can be made from the readings thus obtained.

This test can be performed by temporarily replacing the crystal oscillator of the transmitter by a frequency synthesizer to provide agility. Notwithstanding potential interference considerations during this test, we must stress the importance of performing this kind of test at a very low power level, 10% of normal carrier power or less, to avoid the risk of component damage in the ATP or the transmitter.

In an actual case, for instance, it was discovered that in an important portion of the coverage area, located comfortably on the side of the major lobe of the radiation pattern of the station, there were complaints of bad sound. Tests revealed that at one side of f_c the pattern had shifted to the point where a minor lobe provided the coverage to that area for that sideband component. Since the phase of the minor lobe was of *opposite* polarity from that of the major lobe, and of about the same amplitude, the net result was total cancellation of the corresponding audio component. Thus the audio response of the station suffered a complete null in that direction. With stereo operation, the signal would have been seriously deteriorated if such operation were to have been attempted without proper remedial measures.

Improving pattern bandwidth

The interrelationship of ATP flatness and pattern bandwidth having become more obvious, one can break into the vicious circle.

By initially achieving good ATP flatness, the tower phase and current parameters are maintained essentially constant with frequency, thus reducing to a negligible value the variation of

tower operating impedances, because—under these circumstances—that portion of the mathematical argument dealing with mutuals remains constant, leaving only small variations of self impedance as a factor affecting operating impedances. The residual variation in tower operating impedances then becomes predictable and can be used as valid input information for a bandwidth—optimizing network design program.

A further improvement is to “bias” the phase versus frequency trends of our flat ATP, so as to offset “spacing variation” (versus frequency) of the towers which, in terms of wavelength or degrees, varies with frequency. This tends to further compensate pattern variations versus frequency. Calculations indicate that except for critical cases, this degree of refinement is unnecessary.

To circumvent such problems, the design of the ATP should be approached bearing in mind impedance and phase characteristics over the whole channel.

To facilitate this work, which is largely of an iterative nature, a computer program was developed.

Given the desired tower parameters and the predicted tower operating impedances (also computer calculated), the program determines the configuration, nature and component values of the **tuning network** at the base of each tower for optimum phase shift tendencies and impedance flatness. Unless drastic impedance transformations are required, the tuning network remains simple—consisting, in most cases, of three components which, because of the iterative bandwidth optimization procedure, nonetheless differ from the simple, human, “shot in the sky” single-frequency design.

For each case, the resulting impedance (already nearly “flat”) is then transformed back through its feedline to the next stage back, usually the output point of the **phasing network** which, in turn, given the phase shift required in each case, is again optimized as to configuration, nature and component values.

Then the **power divider network** is designed, taking into account its

internal phase shift. Its impedance-bandwidth is then “mopped-up” with a network at the common point, so as to present a virtually flat load to the transmitter.

The computer program is not an overly-complex one in which subtle judgement decisions are made automatically. On the contrary, the engineer responsible for the design remains in control to input such decisions and pertinent data as the design progresses. Yet the computer-aided design does yield a vastly improved ATP over the conventional design usually encountered.

The improved design usually contains approximately the same *quantity* of components as a “conventional” design. However, its hardware cost is generally somewhat higher. This is due to the fact that a larger usage is made of vacuum variable capacitors, and this, for two reasons: 1) to avoid the detrimental characteristics of the “fixed-value-capacitor-in-series-with-an-adjustable-reactor” design approach used conventionally to reduce cost of various legs of the networks, and 2) to incorporate the optimum component values and thus obtain the characteristics sought.

Conclusion

Field results of these designs have yielded gratifying audio performance, even at azimuthal arcs where there is a large rate of change of pattern field per unit azimuth as well as in deep minima of the pattern. Load impedance variation has typically been held down to less than 2%.

Whenever pattern bandwidth appears inadequate to provide sufficiently good phase and response characteristics to ensure proper stereo performance to the listener, redesign of the ATP should be seriously considered. It is possible to estimate the improvement that can be realized.

The author is an engineer and president of Pierre Labarre & Associates Ltd., a Montreal-based broadcast consulting firm.



CCBE ENGINEERING NEWSLETTER

by Bob Burger

I thought I might start out this newsletter by informing you of some important changes to the CCBE Constitution.

Due to economic conditions, a number of stations have been forced to give up their membership in the CAB. With this in mind, the section of our constitution which deals with membership has been changed.

There will still be three grades of membership:

- 1) **Members**—Technical employees of radio and television stations licenced by the CRTC in Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland.
- 2) **Associate Members**—Individuals or companies engaged in a business, profession or service connected with the technical aspects of broadcasting.
- 3) **Student Members**—Individuals enrolled in the electronics discipline of

courses at recognized colleges and universities.

Some confusion has developed in the past when dealing with groups and organizations who are not familiar with the official name for our section, so it was decided to change the name to something that would be more representative. Since we are actually "The Association of Central Canada Broadcast Engineers", commonly known as "Central Canada Broadcast Engineers", abbreviated CCBE, the executive committee have decided that CCBE should be our official logo.

Call for Papers

We are putting out a call for technical papers for the 1983 convention. Anyone wishing to present a paper is asked to submit their request, as soon as possible, to: Jim Mercer, CHCH-TV,



CCBE's new president, Paul Firminger [left], presents plaque to Jeff Guy, immediate past president, for services rendered during 1982.

163 Jackson Street West, Hamilton, Ontario L8P 1L7.

The final deadline for submitting papers will be July 31, 1983, in order that a synopsis of each can be prepared and published.

It is hoped we will be able to come up with a good balance between radio, television and manufacturing.

Your Executive Committee is working on obtaining the services of Richard Cupka, of the Continuing Education Division of Purdue University, to give another seminar at this year's Convention, as he did in 1979.

AM Stereo

After attending the AM Stereo Conference last March in Windsor, I came away feeling a little frustrated that after two days of intensive rhetoric, not much headway was made toward solving the AM stereo dilemma. The bottom line is that we need a lot more testing done in this country. The stations doing the testing should use all systems, not just one, and above all, the processing should not be changed from one system to the next.

People & Projects...

Harvey Kirsch of McCurdy Radio is now based in Chicago. Harvey's promotion to manager of Technical/

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J-Mar Electronics of Toronto are now under new management, but really old, with **Elizabeth Woods** and **Chris Brooks** now running the whole show. They have added many new lines.

I see **Ron Turnpenny** is back at his desk, and CFTR Toronto is going ahead with the Grimsby transmitter project. They hope to be in a position to start testing in September.

CJRT Toronto is in the process of installing a new FM transmitter at the CN Tower.

A retirement party for **Glen Robitaille** of CFPL was held on February 26 in London. Robbie's official retirement date was March 1, 1983.

By the time you read this newsletter, **Paul Turchan** and his boys at CKCO-TV Kitchener should have finished their latest project, upgrading and enlarging the transmitter building. The upgrading consisted of better fire protection, by adding double sheets of 5/8" Gyprock to the ceiling, and replacing the old wooden floor with poured concrete. The building was enlarged to accommodate more communications equipment and to improve the air handling system. This was all done while keeping one television and two FM stations on the air. CKCO-TV, CFCA-FM and CKGL-FM each have a standby transmitter, as well as a main: this meant moving six transmitters three times, in order to do the construction work.

Award Nominations

It's that time of year again, when we start looking for nominations for the CCBE Engineering Award. Is there someone you would like to see recognized for making a significant contribution to broadcast engineering? Just fill in the nomination form appearing in this issue, and send it off as soon as possible.

Well, that's it for now. 'Til the next Newsletter, I hope you all have good and trouble-free times.

Bob Burger is publicity chairman for the CCBE and may be contacted c/o CHML, 848 Main St. East, Hamilton, Ont. L8M 1M1, [416] 549-2411.

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Paul Firmlinger
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LETTERS

BBM Surveys Hurt Maintenance

Technician: "I have to take us off the air tonight after midnight for an hour. There's a field mouse in the phasor and he is eating the co-ax cable."

Program Director: "Gee, Gord, can we let him eat for another 8 weeks or throw him some good feed to keep him away from the co-ax? We're in our rating period."

A bit far-fetched, but it has to be somewhat typical at many stations. The BBM Radio surveys for 1982-83 have been lengthened to 8 weeks; your station is being surveyed for 3 of these 8 weeks.

General maintenance suffers because you attempt to rush maintenance to bring your station to its ultimate at least a week before the rating period, and try not to touch anything for a week or more after. Now, with a 6 to 8 week period, we're talking about a 10 week situation, where little transmitter or tower maintenance, if any, is done.

I think it's time that the CAB Technical Committee and CCBA Engineering take a stand and do something about this dangerous situation.

G.E. Miller
CFBC Radio
Saint John, NB


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THE PHIL STONE REPORT

An Interview with Paul Morton of Global TV

Paul Morton puffs on his ever-present pipe and reflects on the question we have asked him.

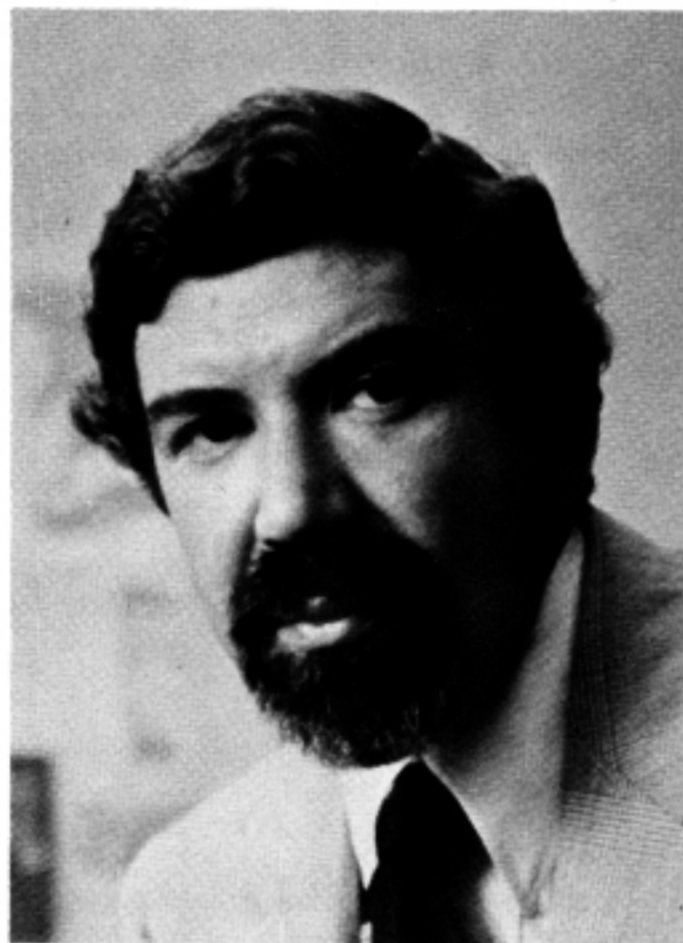
For the 44-year-old president of the Global Television Network (Global Communications Limited), it is light years away from when he might be said to have broken into show-business at the age of five. His role? Spending Sundays—when movie theatres were then closed in Winnipeg—scraping the gum from under the seats and off the rugs in the movie houses owned by his father.

Our opening question had been: "How much different is what you are doing now from what you did before as president of a chain of movie theatres?"

"It's like night and day," said Paul. "One of the fundamental differences is that in television you are in control of your own destiny—you can make things happen and influence your own degree of success. On the motion picture side, you are at the mercy of what pictures you end up with coming out of the Hollywood studios. You have no role in the creative processes; you might buy a little better, book a little better—but it's within such narrow parameters. There are roughly 12 to 15 pictures a year that the whole industry survives on. In Canada, they're basically split between Odeon and Famous Players, so your whole year is determined by the luck of the draw, or whether one of the studios with which you are affiliated ends up having a disproportionate number of those pictures. You can run your theatres a little more efficiently, you can advertise a little more intelligently—there are all kinds of small things you can do—but you really can't succeed or fail on the basis of yourself or your organization."

Paul feels that most people don't realize what "a wonderful and complex business television is, the excitement that occurs every day, year in and year out." He feels there's a rebirth every year and always constant stimulation, "and that's the biggest change in my life."

Paul earned a reputation that brought him to the attention of television after he had taken over the family business in Winnipeg and expanded it from a small chain of theatres to a medium-sized operation. As president of the Canadian Association of Motion Picture



Theatre Owners, he had developed an identifiable presence in the industry. "There was stimulation there," he said, "but nothing compared to television."

Was it his administrative background as head of a movie house chain and his term as prexy of CAMPTO that qualified him for his present role? "I think the general administration side was a major factor, but I think that I had developed a feeling for what the public likes and wants. You learn to be reasonably objective in your own views on programming and you can take a look at something and say, 'God, that is awful! Let's buy it.' Or even though it's excellent and you love it, realize that it isn't commercially attractive and won't work when the public has to watch it."

For Paul Morton, it is imperative that television programmers recognize what the public wants—there is no room for elitist tastes. "Ultimately the public are the judges. You can spend millions on advertising, you can do whatever you want—but if the fundamental quality isn't there, the thing is going to fail. And I keep coming back to the point that no matter what the government wants to do, no matter what we want to do, the public is going to make those decisions. My own feeling is that the public out there are going to be right 99 per cent of the time in what they choose for success."

We reminded Paul that the Philadelphia *Inquirer* coined the slogan,

Never underestimate the power of a woman. Was he saying, 'Never underestimate the power of an audience?'

"That's right," he replied. "I have great faith in the public knowing what is right and what is wrong, what is good and what is bad. So good shows ultimately succeed—and I don't mean good in the minds of the critics or the programmers—only good in the minds of the public."

We mentioned to Paul that many presidents and/or operating managers of broadcasting operations had never been performers: did he think that having an on-air background would be an advantage?

"I don't think," he reflected, "that there is any need to have been a performer. I think that an awareness of the whole process is beneficial. I wish I had personally had more previous experience in the industry—not necessarily as a performer, but perhaps in the creative process of program production. I have learned a lot of things along the route—some by hard experience. But then again, the key is: can anyone who is a performer or a producer or anything else make the transition to an administrative role? Obviously, the president has to be first and foremost an administrator and be able to surround himself with people who can do some of the other functions."

What further equipped Paul Morton for his present and past major posts is that he is a law graduate from the University of Manitoba. He ultimately opted for running his family's business rather than practising law. The theatre business was at its all-time low in the late 1950s, following the introduction of TV, and a lack of management after the death of Paul's father when Paul was 13.

A man who likes to work and who likes his work, Paul has immersed himself fully in the complex and changing world of broadcasting.

As we talked—and as Ottawa was sounding the clarions of change and restructure—Paul said that his feelings were that if changes were to be made in conventional television they should be based "on a set of assumptions that in my view were not faulty. Some of the things they've done bother me tremendously—something as funda-

mental as saying that TVROs are legal and they can take anything they want. The fact that it is theft seems to be sliding right by the boards. What the government is saying is that the person who steals has the right to do so and that the onus is on the person who owns the property to make sure their goods are locked up. It seems to be so far away from natural justice. It's quite frightening as a concept that theft becomes legal and the crime is not having your goods so securely positioned that somebody else can take them."

Paul feels that part of the problem with Ottawa is that there are no experienced broadcasters on the CRTC, and that another part "is the desire to do things for the sake of doing things."

"Clearly, it is time for change, but one of the great things about Canadian broadcasting I have learned is that the system has evolved in a very slow and gradual manner, and has, as a result, provided Canadians with very good service in their communications system. I don't think there is a need to do things on a convulsive basis or to make so many changes simultaneously."

We wondered if Paul favored

self-policing for the industry. "I think the danger of self-policing," he said, "is a tendency to become ultra-conservative—the public sees fewer good things because everybody takes the safe route. I really don't think self-policing is the answer."

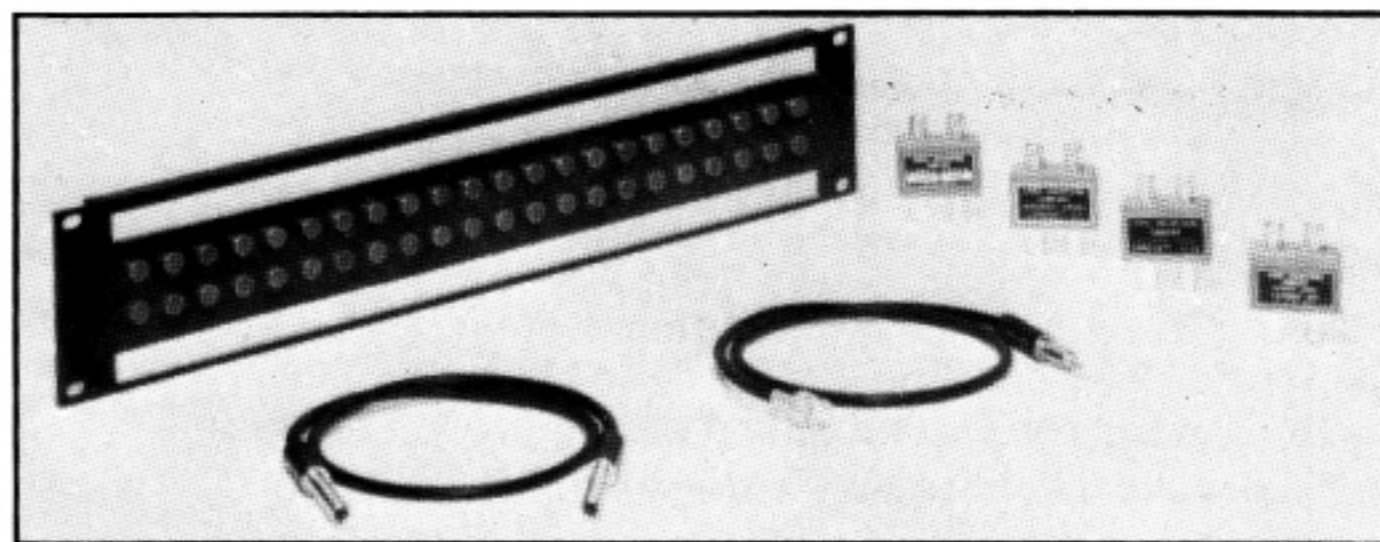
We talked about Canadian content, Canadian production, and I asked Paul if he felt that in the end the public would also decide if they wanted to watch something made in Canada, against a product from the United States.

The public, he told us, "is going to decide anyway. If the regulations are such that we have to present Canadian content, my only argument is that we should be able to offer Canadian content that the public wants to watch. And I come back to one of our fundamental arguments: one of the things Global does very well is news, public affairs, and information programming—those are the areas in which we have had our greatest success. I would be very happy with the CRTC if they were to allow us to take all of the resources we spend on Canadian programming and give us the freedom to use those resources in an area where we think we can get the

greatest public response, providing the greatest service to our audience. And let others who do a good job in variety or drama or some other area concentrate on what they do best. I think that if the guidelines were on resources committed, with less restriction on the areas where they are committed, the whole system would be ahead of the game."

How much benefit and how much handicap is it to be what Global is—a regional, rather than national, network? Is it, for example, easier for Global than it is for CTV, or is it more difficult? Without hesitation, Paul replied, "more difficult, because to a large degree we are asked to be competitive in our programming standards, and that is by both the regulatory bodies and by the public. CBC covers 99 percent of Canada—CTV almost the same—and as a result they can amortize the cost of any show they do over all of this country. We're limited to Ontario—and although we can sell some programs to the independents in Vancouver, Edmonton, Calgary/Lethbridge and Winnipeg, the only other Canadian markets that have independent stations—there's really just no way we can amortize our

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21

PHIL STONE REPORT

cost in the way the two national networks do. It's interesting to note that within the Global grid there are three CTV stations and they furnish approximately 33% of the CTV program budget, whereas we bear 70 to 100% of the cost of our shows. I just don't see any great benefits to being regional, because in most cases we end up buying national rights to programming. So we have the same costs as the national networks and we don't have the same revenue opportunities. The answer could be to have Global become

national—but not as a network in the traditional sense. When we think of that development, we are firm in not wanting to be like CBC or CTV. We made a proposal that would have Global going into all those markets that were not already served by three English-language services.

Paul Morton feels that there is no reason why everyone in Canada shouldn't have third Canadian service. The proposal Global made to the government is that they should be permitted to go on satellite and be seen through cable in markets that do not presently have a third English service. Global would disappear from those markets when they had grown

sufficiently to have their own third service. "We could do better then," said Paul, "by having someone who could buy programs from us; actually, better than we could do operating ourselves." Paul is realist enough to know that the proposal could take much time to bring to realization—both because of government indecision and likely intervention by private stations in the markets concerned.

There is one almost ironic touch when one discusses the future with Paul Morton: he came out of a movie background, but movies are not in his foreground. "We made a decision a long time ago, based upon the best information we were able to get—and it has held up in principle—movies were not going to be a major staple of our programming. There are plenty of movies around—pay-TV, cassettes, video discs—and we made the decision not to be involved, and it has proven to be a correct decision, both in the production and in the airing of movies. There is no regular movie slot in our schedule. What I can best describe as 'regular programming' is our schedule virtually 52 weeks a year, so advertisers know they are not seeing big numbers that have been 'hyped' for ratings and the rest of the year the schedule drops away to nothing. We might not do as well as others in the major rating periods, but we also know we will do better in the non-rating periods when there aren't special games being played."

Would he then agree that sitcoms and game shows are the meat of Global's programming? "I wouldn't say that," Paul replied. "I would say that regular U.S. network or syndicated programming and news are the key elements of our programming. Our goal is to have our identity and personality. Everybody should have an alternative role in some fashion or another—whether it's in scheduling, programming or style of programming. I really think that Global is alternative."

One leaves Paul Morton convinced that he has truly found his milieu. That he is where he belongs.

"My basic feeling," he told us, "is that 75 to 85 per cent of the things I do, I guess I'd willingly pay to be able to do. The rest of the things I do, the onerous things, I get paid very well to do, as far as I'm concerned."

Phil Stone is a well-known writer, broadcaster and educator, whose Phil Stone Report and Broadcast Beat are regular features of Broadcast Technology. Phil may be reached at 2350 Bridletowne Circle, #1601, Scarborough, Ontario M1W 3E6, telephone [416] 492-8115.

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AM and FM Find Common Ground



by Larry Smith

CJOY Guelph, Ontario, is a class 2 DA-2 10 kw station using four 180-foot towers in a dog-leg configuration. CKLA is also Class 2 (FM), with an ERP of 50 kw and a height of just over 400 feet.

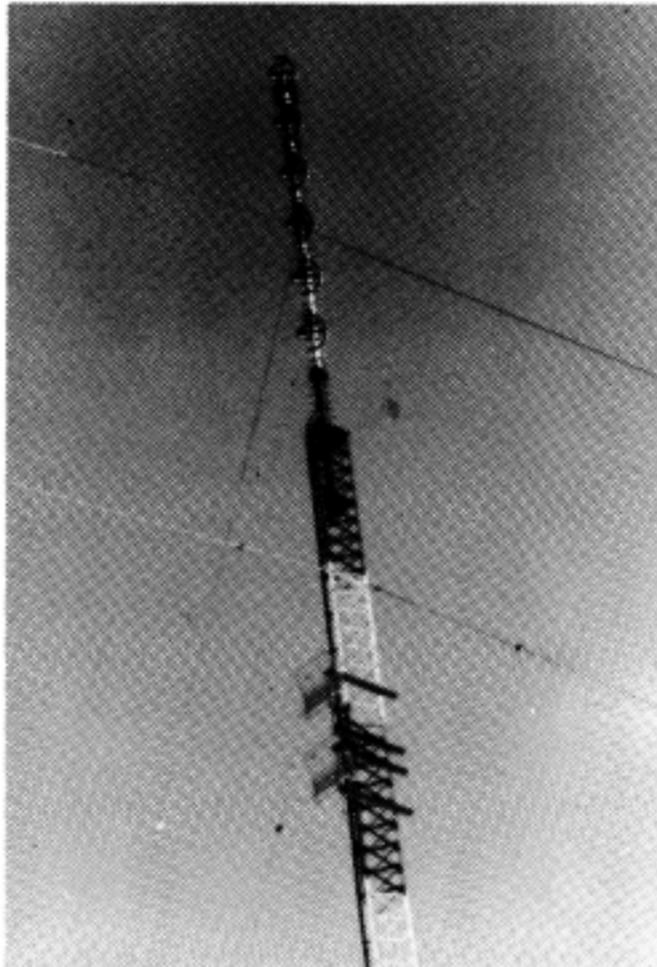
In the fall of 1980, we began a complete rebuilding of the existing 20-year-old AM site, involving a new phasor, ATUs, AM transmitter, and one new 410-foot tower. At the same time, we moved CKLA-FM to this same site to take advantage of the added tower height, improving our EHAAT considerably. We also increased FM transmitter power and installed a 6-bay antenna system.

Several things made this attractive:

- better coverage for CKLA (we encountered height restrictions at the old site);
- improved daytime efficiency for CJOY;
- reduced operating and maintenance costs with just one site.

Our consultant, George Mather, had previously done a design for a station in Winnipeg, so we had a little history on our side.

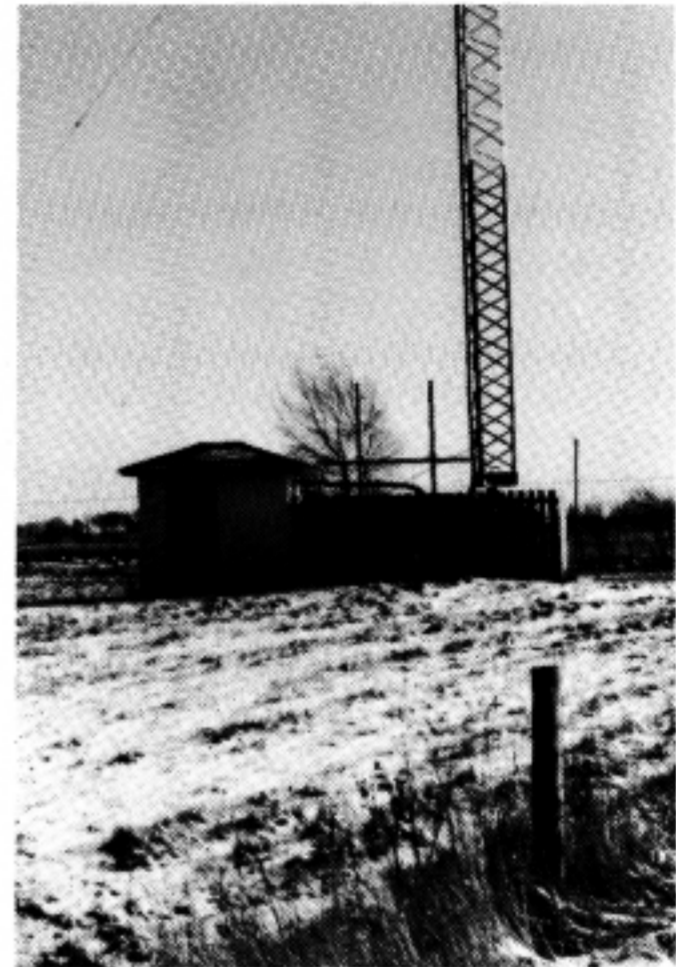
As this tower is well over 90 degrees at CJOY's frequency, we could take advantage of the quarter-wave-stub technique of attaching to the tower the FM transmission line, STL cables and a



New 410-foot tower with 6-bay FM antenna.

copper lightning cable, since we could even establish a DC path to ground.

Bill Marchand bridged the tower to find the zero standing wave point and we bonded everything above this point to the tower, and insulated everything below this point away from the tower, right back into the tuning hut. George



Tuning hut.

recommended as a safety precaution that we incorporate isocouplers in each of the transmission lines (2 STLs and main FM), which are located in the tuning hut. This concept is a little like playing leapfrog with a unicorn, but I'd like to report that everything is very stable.

We installed a very comprehensive ground system, including buried copper mesh in a concrete floor of the main building, with copper strap and braided

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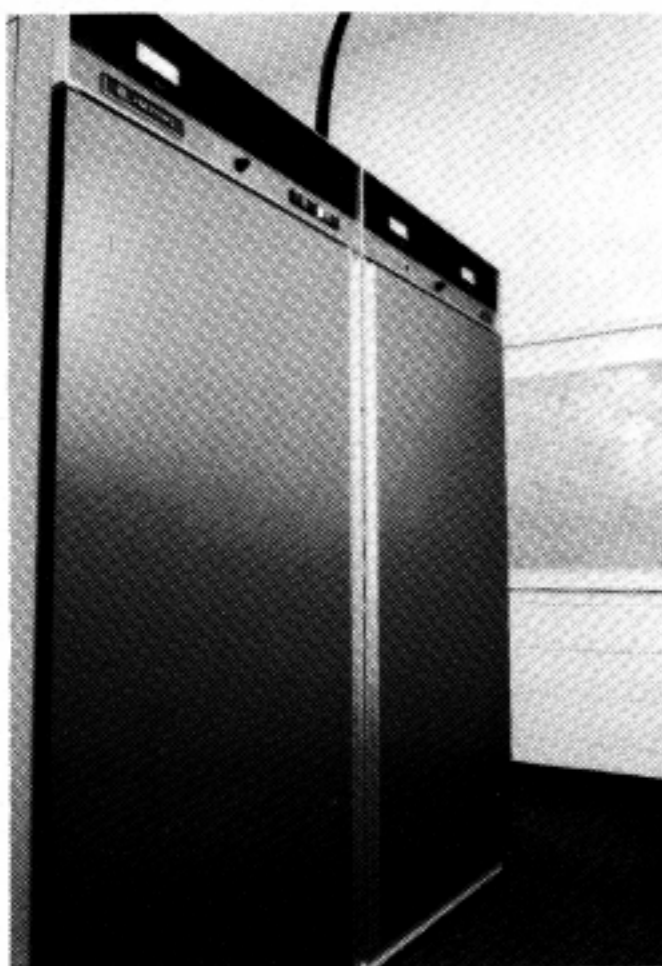
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Control racks.



CJOY AM transmitter [Harris MW10A].



Main transmitter building.



CKLA-FM transmitter [Harris FM20K]; 9 kV power supply is separate cabinet.

cable attached to phasor, transmitters, conduits, door frames, etc. Our biggest problem turned out to be detuning the big tower from the night array. An ideal situation would have had this tower used in both arrays, but we could not tolerate the additional skywave radiation. It took many days of adjustments to find the null we wanted from this big

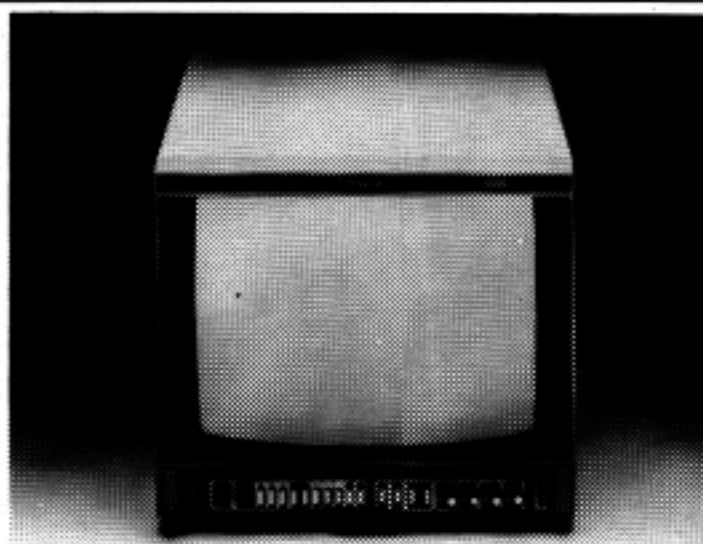
tower. One night during our work my assistant Ken Hudson put his hand into a coil to make an adjustment. The null fell into place. We shouted, "What did you do?" He explained what he had just done. Rather than leave him in that position, Bill designed an L-network that "looked like Ken's arm"—Guelph's first bionic arm.

In the control racks there is a large panel of LEDs that indicates fire, entry, transmitter alarms, loss of co-ax pressure, generator faults and fuel status, air conditioning alarms and Ontario Hydro phase samples. At a glance you can see what is normal and what is out of tolerance. This information is boiled down to 32 bits and sent on the telemetry system back to the studios. In connection with these indicators, a C-MOS interface system of our own design can make "logical" control decisions. For example, if the Harris MW10A was to overload and lock out, we will either change pattern or change to the alternate transmitter, depending on whether the alarm related to a change in load or transmitter internal problems. This switchover system is disabled whenever our "go home" system is put into local control. Brad Mayes of my staff designed a seven-segment display arrangement near the outside door that indicates which piece of equipment has been left in local control.

Since these transmitters can be switched automatically, we felt that a cooling period was important before the filaments switched off, since we run cold standbys. Each transmitter is now equipped with an externally-mounted thermostat which holds that circuit closed until the PA temperature comes down.

Other features of the building include "clean air rules": no smoking, double filtered air inlets, carpeting and positive air pressure throughout the building.

As far as backup systems are concerned, we have a main and standby transmitter for both stations and a stereo pair of Bell lines for use by either station should a radio STL fail. If we were required to evacuate the studios,



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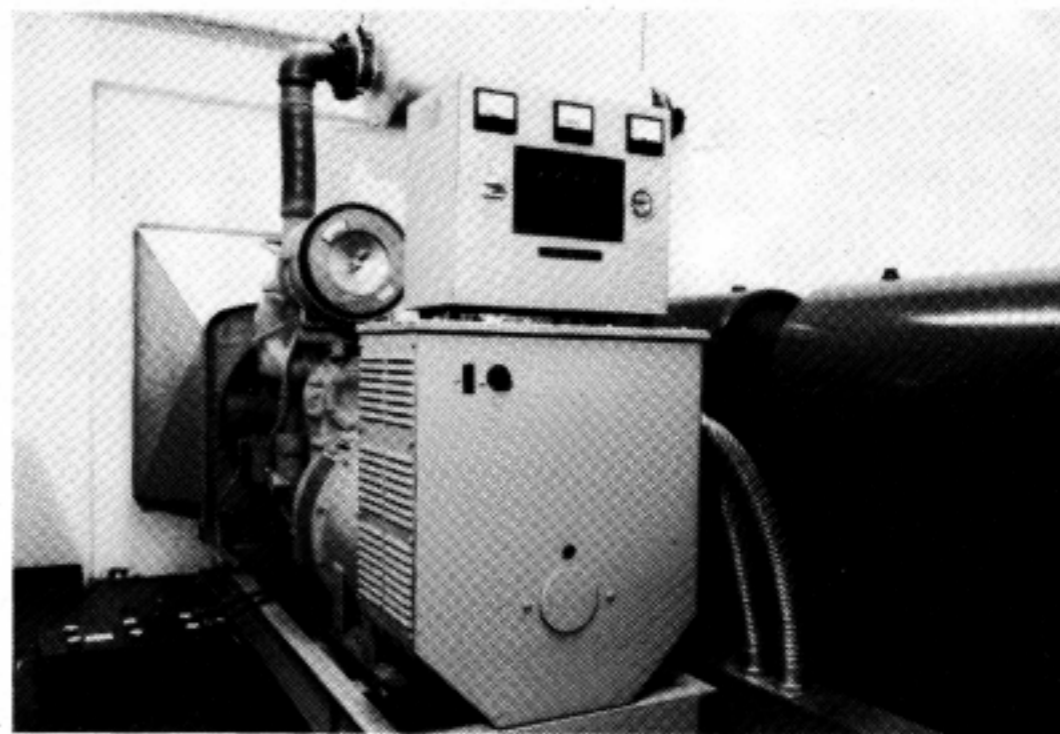


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Emergency studio at transmitter building, with three tape machines at left.



Diesel generator [125 kw] has 2000-litre fuel storage.

we can program from the transmitter site. We also have installed two carts that will start when power fails at the studios, since we have no emergency power there. The three reel-to-reels contain the proper mix of music for CKLA's automated system. And 125 kilowatts of electrical power from a Detroit diesel are available to power the whole site with 2000 litres of fuel storage, should the weather really sock in. An exercise clock causes the generator to assume load each Tuesday morning, during the all-night shows, for about 1½ hours. If the set fails then, the transfer switch will flip us back to normal power immediately. Regular transmitter readings are taken later that same day so we'll pick up on these faults quickly.

The building layout incorporates fire protection by having each main transmitter in a separate concrete block room. The two standbys are in the original transmitter room of the old section of the building. All areas are cross-zoned with both rate of rise and smoke detectors which will shut down that particular area if an alarm occurs.

One of Murphy's laws surely must state that the urgency of the phone call is proportional to your distance (in meters) from that phone. Four portable wall-mount telephones and many wall jacks allow us to move sets into the area where we're working. A Mitel intercom module and "hold" feature are also incorporated. Yet to come is an interface into our VHF system. (Now try and catch me not near a phone!)

The tower huts were also replaced during this project. At that time we added two floodlights at each building; one that lights the walkway and the other illuminates the tower base. They are remotely controlled from the main building.

Coaxial cables, electrical and 25 pair cables were direct-buried back to the main building. Twenty-five pair cable was also used throughout the main

BROADCAST TECHNOLOGY



Standby transmitters.



Main transmitter building, now three times previous size.

—photos by Pete Chery of CKLA-FM.

building for samples, signalling and telephone talk paths, with only "reasonable" RF bypassing required.

Casper "the carpenter" Pauw, resident handyman, designed an invisible gate in each tower fence. Vertical planks in the wooden fence are tied together so they open conveniently for access to tower bases and Austin transformers.

Scott Reid of CKNX Wingham gave me an idea for weed control. We collaborated with a farmer up the road to pasture his sheep on our land. Scott says CKNX has been doing this for over thirty years. Our farmer arranged for

new fencing and gates and ran a flock of 55 sheep this past year. He also mowed where the sheep couldn't reach and cleared the lane in the winter. It works out beautifully. We even got a watchdog in the bargain!

If you're planning a transmitter job or are just interested in browsing, give me a call for the nickel tour.

Larry Smith is the Engineering Manager for CJOY/CKLA Guelph and also has technical responsibilities for CFTJ Cambridge.

NEW FACILITIES FOR CKSL RADIO IN LONDON'S CITY CENTRE

CKSL Radio and City Centre (London) Limited have announced that the station will move to new studios in the City Centre complex, located at Wellington and King Streets.

City Centre will construct the new facilities on the mezzanine level of the complex, and also purchase the building at 343 Richmond, which has housed CKSL since its inception in 1956. Described as among the most modern broadcasting facilities in Canada, the new studios are to be ready by September and represent an investment of nearly \$1.5 million by the two companies. Included will be four main studios, five "talk" studios, an expanded news department, and a

unique two-way radio set-up for both news and remotes.

CKSL v.p. and g.m. Gord Hume describes it as the most important advancement for the station since it was licensed. During the past two years, CKSL has acquired a fleet of mobile cruisers, installed a new 10 kw transmitter, and enjoyed dramatic increases in its ratings.

COMMUNITY SERVICE AWARDS

CKSL London, ON, has instituted a *Citizen of the Year Award*, and named Mrs. Carol Johnston, director of a local childrens' museum, as its first recipient. Forty-one nominations were received by the selection committee, whose nine members include CKSL general manager Gord Hume.

Oakville's CHWO has presented its *Howard C. Caine Community Service Award* to Mrs. Mabel Amos for her efforts to assist a local high school boy who suffers from cerebral palsy. The award is named for CHWO's founder, and parallels that presented each year at CCBA, recognizing community involvement on the part of broadcasters.

OLDEST D.J. NOMINATION

A recent item in *Stations in the News* (Jan/Feb/83) told of Fred White of CJNH Bancroft, ON.—80 years of age last November 18—who his colleagues believed to be Canada's oldest disc jockey.

R.D. Reid of CJIB Vernon, BC, writes: "My nomination for Canada's oldest D.J. is Norman Spackman, who was 80 on July 14, 1982. Norm has been doing a weekly classical music program on CJIB since 1978; he selects the music, researches and writes the script, and voices the program — which embraces all types of classical music, including instrumental, operatic and ballet. A retired civil servant, Norm has been interested in classical music all his life. He says, 'It's nice to know that someone of comparable age is doing a similar show.'"

Any other nominations?

CKFM DIGITAL RECORDING

On March 9 CKFM Toronto recorded the 2000th appearance of jazz performer Moe Koffman at George's Spaghetti House. Produced by Ron Zakar, with engineering assistance from Dave Simon, the recording was made using the Sony F-1 encoder to a portable Beta VCR; it was then edited on the F-1 "copy" facility to a Panasonic VHS machine. On March 20, the program was aired using the Panasonic VHS machine for playback through the F-1 to air. The project demonstrated that the size of this equipment makes field recording possible, easily and quickly. Response was very encouraging, with many listeners equating the sound to that of a live performance.

SELKIRK TO BUY CFNY-FM

Subject to CRTC approval, Selkirk Communications is to purchase CFNY-FM Brampton from Mutual Broadcasting, a subsidiary of Civitas Corp., Montreal. It will be the first radio station in eastern Canada for Selkirk, which controls CHCH-TV Hamilton and has major broadcast properties in B.C. and Alberta. No change is planned in CFNY's "alternative rock" format; however, Selkirk is expected to implement a change of transmitter site, a move from the suburban location to the CN Tower in Toronto already having been approved by the CRTC.

A company headed by Pat Hurley, v.p. and g.m. of CKMW and CFNY, is expected to purchase the AM station.

CAN PRO AWARDS

CITY-TV Toronto was the big winner in the *Can Pro* awards, held this year in Halifax. CITY took four gold awards for promotion, and three for programming.

Other awards in the annual competition — which gives recognition to excellence in local programming and promotion by private TV stations — went to: BCTV Vancouver, CFTK-TV Terrace, CFJC-TV Kamloops, BC; CFCN-TV Calgary/Lethbridge, CFAC-TV Lethbridge, AB; CKTV Regina, CFQC-TV Saskatoon, SK; CKND-TV,

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FIRE DISRUPTS CHYM

CHYM Kitchener, ON, was forced off the air for about an hour last January 12 when a \$100,000 fire hit the 10-storey office building in which the station is located. The fire was in the building's electrical distribution room on the same floor as CHYM/CFGL-FM. CKGL continued operating on automation with stand-by power; however, CHYM on-air personnel were forced out by smoke. Temporary power lines were run up the exterior of the building during repairs.

NEW TX SITE FOR CFTR

Ron Turnpenny, vice-president of engineering for Rogers Radio Broadcasting, reports that the completion of the Grimsby transmitter site for CFTR Toronto is expected by late 1983. After some delays, work resumed earlier this year and the new towers were delivered. The Grimsby location is 30 miles south across Lake Ontario from the present site in Mississauga.

In another project at CKJD, the Rogers station in Sarnia, ON, new AM studios will be installed, keeping pace with the FM sister-station, CJFI, which went on the air in 1981.

BAD YEAR FOR TOWERS

Unusually heavy icing and strong winds combined to make the past winter's weather disastrous for broadcast towers. In March, three towers came down in Manitoba: one at Brandon, housing CKX-TV, CJCM-FM, CBC-FM and a rebroadcaster of CKY-TV; two at Baldy Mountain (CBC, CKX-TV rebroadcasters). In Saskatchewan, another casualty was the Carlyle tower of Yorkton TV.

Jim Wilson of LeBlanc & Royle, who were involved in restoring service at all of the above locations, reports that a number of towers also came down in North Dakota, and that a major tower collapsed at Portland, Maine.

The worst mishap occurred in the U.S. last December 6 at a site near

Houston, Texas, when five workers from Worldwide Tower Service died and three were seriously injured. A gin pole being used as part of the pulley mechanism failed as the second of eight

FM antennas was being hoisted to the top of the 2,024-foot structure—the tallest broadcast tower in the U.S. The falling antenna severed a guy wire, and the tower broke into three pieces.

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The Re-Incarnation of Studio G

by Martin Slofstra

It began auspiciously as a chapel for a women's college. After World War II, the CBC moved in and converted it into a radio station—intending to use it only temporarily. But look at it today and you will see the finishing touches applied to a newly-renovated state-of-the-art radio studio.

This is Studio G, one of 14 studios at CBC Radio's Jarvis Street facilities in Toronto. The actual structure was built in 1903 to serve as a chapel for Havergal

Ladies College. But 80 years later, and after \$1,000,000 worth of renovations spread over the last five years, Studio G has become what Thomas Holden, National Resources manager for CBC Radio, describes as "one of the best, if not the best radio recording studio in North America."

Studio G is used primarily for drama, but also for producing documentaries and some popular music. As you might guess, the transition from solemn

confines of a chapel to a studio with all the special requirements for drama presented some engineering problems.

"Some say it would have been easier to demolish the chapel and start all over," says Holden, "but because the building is designated as historical, you work with what you have. You may even end up fighting the structure."

And that they did. The walls needed to be redone to meet acoustic requirements, the floors were not strong enough to support the installation of equipment, the fire rating needed upgrading and the entire building surrounding the studio needed structural work. Finally, there was a pillar in the middle of the isolation booth.

Once these problems were solved though, everything fell into place. The stained-glass window as you enter the studio is the only reminder of the chapel's existence; the rest of the look is all high-tech.

The chapel itself has become a 1450 sq. ft. studio. The floorspace closest to the control room is designated "live", meaning sound reflects easily and thus creates the *indoor* effect. The closer you walk to the back of the studio, the more sounds are absorbed to create the *outdoor* effect. The floor space is carpeted and the ceiling has a thick layer of fiberglass with a plywood encasing.

The studio is designed to achieve a full range of acoustics with as little electronic processing as possible. The natural acoustics are so unique, says Paul Mills, a CBC radio dramatist, that depending on the placement of microphones, radio drama comes out sounding like a three-dimensional stereo pickup.

The control room is 400 sq. ft., and features a 32-input console from the MCI JA600 series with 24-track capability. It has all the conventional features—and some not-so conventional features, including a sophisticated automation system. Frank Bertin, a technical instructor for radio, says it can do a lot of amazing things, with its possibilities limited only by the imagination of the operator.

Studio G actually became operational in mid-February. And lest you think the one-time chapel will ever decrease in its usefulness, Holden says it is being used two eight-hour shifts a day, five days a week.

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Martin Slofstra is a free-lance writer specializing in communications.



Once the chapel of Havergal College, Studio G at CBC Radio in Toronto has undergone a million dollar transformation into one of the continent's top radio recording studios. [CBC photo by Fred Phipps.]

Streamlined, uncluttered appearance, with expansive areas of glass to facilitate visual communications, provides a dramatic contrast with previous views of Studio G and its control room.



STUDIO G FACILITIES		EQUIPMENT	
Studio	1450 sq.ft.	• 1 MCI JH-600 32 input Audio Mixing Console with mixdown automation package	• 1 Eventide Harmonizer Model H949
Control Room	400 sq.ft.	• 1 Studer A80-16 track tape recorder with autolocator	• 1 dbx 160 Compressor/Limiter
Isolation Booths:		• 4 Studer A80 stereo/mono compatible tape recorders	• 2 Technics Sp-15 Turntables
Dead/Drum Room	90 sq.ft.	• 1 Studer 269 16 input console for sound effects	• 3 IVC 3D-0004 Cartridge Recorders
Sound Effects/Vocalist Room	100 sq.ft.	• 1 Ursa Major SST-282 Space Station	• 1 ITC WRA-0001 Cartridge Recorder
		• 2 Lexicon Super Prime Time Digital Delay	• 1 Sony TC-K71 Cassette Recorder
			• 3 Bryston 4 Amplifiers
			• 8 Bryston 2 Amplifiers
			• 1 SAE 546 Dual Parametric Equalizers
			• 2 JBL Loudspeakers 4333B
			• 2 Auratone Loudspeakers Model 5C

BROADCAST BEAT

by Phil Stone

Friend Gord Atkinson at CFMA Ottawa continues to reap accolades, the latest for his radio series *The Jack Benny Story*...**Rolph Hougren**, chairman of Canadian Satellite Communications, Whitehorse, Yukon, was kind enough to send us a copy of the excellent publication *The Canadian Satellite*, along with a copy of *Cancom*, the satellite fact book...*The fishing season is upon us. Only time I tried it, all I did in eight hours in the broiling sun was drown 20 worms*...**Peter Armstrong** departed CJOR Vancouver, where he was general sales manager...The Radio Bureau again working with Dupont Canada on a co-op ad campaign with carpet retailers...Another reason **Dave Nichol**, president of Loblaw's, does his own commercials, which the supermarket chain itself produces with a five-man crew, is that it saves an estimated \$500,000 a year...**Collin Jamieson** remains as president of CJYQ Newfoundland, acquired by the CHUM group; **Tom Hann** was named operations manager...That's **Al Dubois** who succeeded **Tom Clackman** as morning man at CFCF Montreal...Standard Broadcast Sales expanded to Vancouver by buying out J.W. Stovin Media Reps, retaining **Jim Stovin** to run the office. It's the first step in an expansion which should also add Winnipeg and Halifax...Speaking of Standard, did you know that CFRB Toronto charges the highest rate in Canada, \$300, for Class AA 6-second spots?...

I've worked hard all my life to give my sons what I never had: a father up to his ears in debt...**Gary Slight**, who programs Q-107 Toronto, married **Donna Sawicky**, highly respected in TV production...**John Bartrem**, recovered from surgery, is back at his post as v.p., sales, at CJAD Montreal...**Gerry Boddington**, a legend in radio and pioneer in copy writing, retired after 40 years with Standard...**Greg Stewart** became manager at CJFM Montreal...The Argonaut football club renewed its play-by-play rights with CFRB for three years; **Bob Bratina** will again cover the action with **Peter Martin** on color...Where's **Bob Durant**? He's a newsman at CKFM Toronto...We admire **Jeremy Brown** for his tasteful and sincere eulogy to **Phil McKellar**. And likewise **Ralph Lucas** of CJAD for his tribute to the late **Paul Reid**...Condolences to CHUM group's **Duff Roman**, who lost his father, and to CFUN Vancouver sports director **Annis Stukus**, who lost his mother, **Salome**—she raised two other sons prominent in sports: **Frank** and **Bill**...I'm told those ex-NHL stars who do color on the major league hockey games for TV earn about \$400 per game...**George Lund**, former g.m. of Cambrian Broadcasting, now v.p. and g.m. of Mid-Canada group...CJAD sports director **Bob Dunn** left to work in Vancouver in sports marketing/promotion...**Harvey Clarke** of CKEY Toronto was named an alternate on the volunteer Advertising Standards Council...**Robert Murray**, v.p. and g.m. of *TV Guide*, is this year's chairman of *Magazines Canada*...Sign in station sales office: "You can if you will." Underneath, someone pencilled, "You're canned if you won't"...

Sun columnist **Paul Rimstead's** late-night talk show will continue on CJCL Toronto at least until September...CFCF Radio in Montreal appointed **Dave Atkinson** as general sales manager; he'd been with **Paul Mulvihill** which reps 'CF...**Johnny Lombardi** received still another honor—from the prestigious Italo-Canadian *Luciana Club*, for his efforts to keep new Canadians informed...The first World Conference of Community Oriented Radio Broadcasters will be held in Montreal, August 7-12. Organizers hope for some 800 delegates from 1200 stations...Home Box Office, which started in 1973 with 18,000 subscribers, now has 12 million...Do you enjoy **Andy Rooney** on *60 Minutes*? He's 63 years old, is paid about \$125,000 a year by CBS, earns about the same from his syndicated column three times a week in some 300 U.S. newspapers, and also does well from his books. Until 1973 he was but a TV writer for such widely diverse performers as the late **Arthur Godfrey** and **Harry Reasoner**...**Bill Katz**, research director of the TV Bureau, is president of the Canadian Advertising Research Foundation...**Henry Comor**, who hosted CBC's *Medicine Show*, is now full-time medical correspondent for *Global news*...

On our return from a holiday in Mexico, we learned that **Bob Reinhart** of CKTB/CJQR-FM St. Catharines had passed away on March 25th. He was one of the originals on the advisory committee we set up when we founded the Humber College radio course. Bob had long been a staunch and dear friend. He was a very special person who will live long in my memory and, I'm certain, in the memory of his many friends and colleagues...

For several years, we've been teaching public speaking to management groups of the Canadian Standards Association

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—thus it was interesting to note that the CSA is forming a new Standards Steering Committee on Telecommunications, including telecom equipment, electrical protection, cable, wire, optical fibers and measurement methods...Cancom should by now be well settled in its new master control centre at St-Joseph-du-Lac...Of 29 advertiser-supported cable channels operating in the U.S., only one, Cable News Network, is reported close to breaking even...A big hand to CJCL for its very worthwhile pamphlet, "A Pocket Guide to Radio Public Service Announcement", available to non-profit groups in Toronto...News of **Tommy Darling's** passing at age 72 recalled the many times this energetic, dapper man with a deep and abiding love for radio, had chatted with us, often passing on counsel and advice. Tommy was a real pioneer: he originated radio talk shows in Canada in 1953, and helicopter traffic reports four years later...Congratulations to Conestoga College broadcasting instructor **Larry McIntyre**, who has earned his Masters degree...**Larry Mann's** line, "We're not sure", on those Trans-Canada Telephone TV commercials, quickly became a byword among college students...Using his book as the source, **Paul Kligman**, CBC writer-actor, wrote a play that has met with some success: he starred in it at Toronto's Bayview Theatre; CBC-FM ran it as a one-hour drama with Paul playing opposite **Henry Ramer**; and a Chicago publisher is now offering it to theatre groups in the U.S....**Arthur Kent**, seen occasionally on *The Journal*, is a brother of **Peter Kent**...When and if **Knowlton Nash** calls it a day, the guessing is that **Peter Mansbridge** will be his successor...**Sandie Rinaldo** of CTV's Canada AM expecting in May—the second child for Sandie and her lawyer husband, **Michael Rinaldo**...Gossip in Toronto is that one of the AOR FM stations will go country; without it, Toronto is the only major market in North America that doesn't have a country FM station...

Visiting a TV newsroom, I met the girl who typed the weather forecasts. When told that she was truly a fast typist, I asked, "How fast do you type?" "Oh," she replied, "about 55 words per minute with occasional gusts of 60 to 65"...**Bob McMillan** is now supervising editor at CKO...CITY-TV Toronto has been ordered to shift to Channel 57 and will vacate 79 by the end of July. Canada, like the U.S., is clearing UHF channels 70-83 for mobile radio uses...**Jamie Warren**, one of the award-winning students in Conestoga's broadcasting course, is also an accomplished composer and performer; he's moved to Memphis, where he will practise those crafts, as well as work at a radio station...Relaxed rules on ownership of satellite dishes have spurred Canadian sales; in the U.S., where there is an open sky policy, sales are said to be upwards of 70,000 a year...COTY-29 is the name of a new color TV tube system to be marketed by early 1984. It is to be produced jointly by RCA and GE, who claim the system will provide a sharpe image, require lower operating voltage, and cost less to manufacture, as it uses less copper than existing systems...When **Larry Silver** parted company with CJCL, he returned to CFTR, where he'd been assistant news editor under **Bob Holiday**; that's the same Bob Holiday who is now g.m. at CJCL...Congratulations to CFAX Victoria for its enterprise in providing sailors aboard four Canadian Forces ships in the Pacific Ocean with cassettes of newscasts and messages from home, airlifted for play over the ships' PA systems...This past season, many a vacationer got off-season weather at in-season rates...

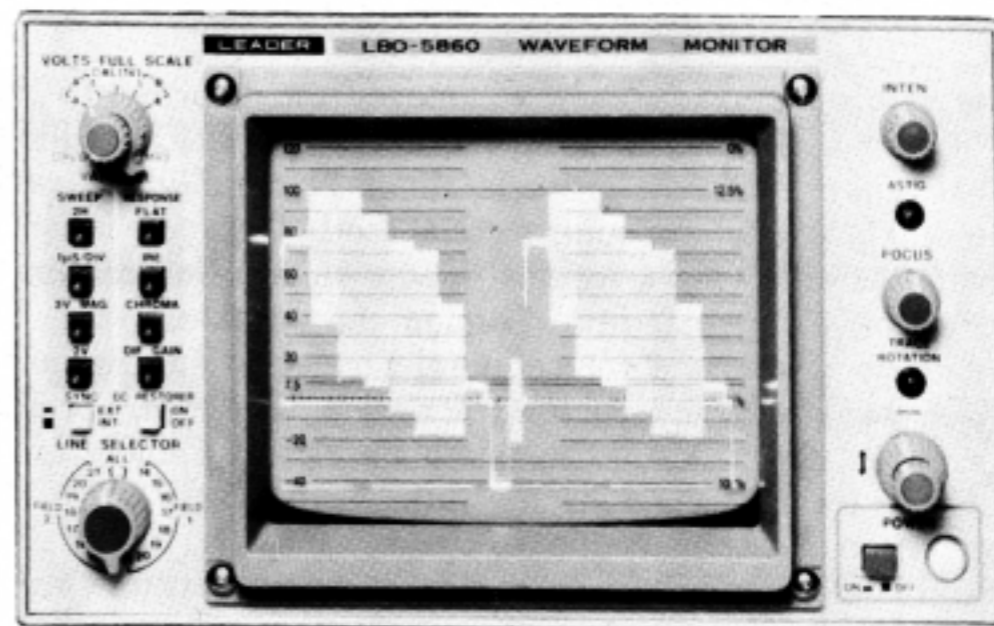
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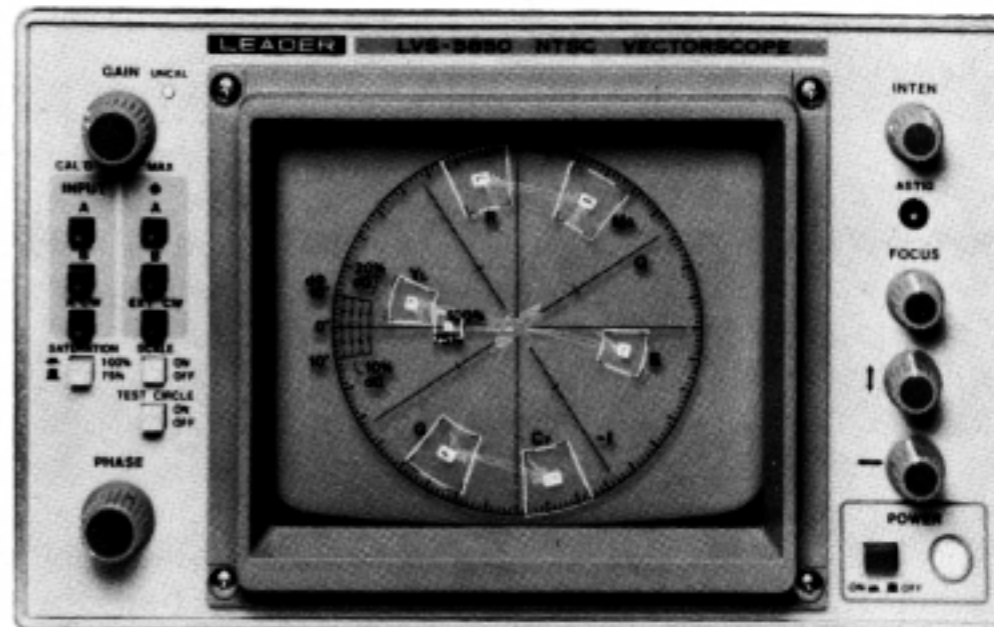
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BROADCAST BEAT

Among those elected to the Toronto Press Club's News Hall of Fame for 1983 were **John Bassett** and **Pierre Berton**. Bassett, former publisher of the Toronto *Telegram*, started CFTO-TV and is chairman of Baton Broadcasting. Berton, of course, is renowned as both author and broadcaster, and I have a story about him I like to tell. When Pierre was a columnist for the Toronto *Star*, **Al Waters** asked me to approach him about doing daily mini-editorials on CHUM. Pierre agreed to meet me for lunch, and when we sat down in a hotel dining room, the maitre d' came over, all excited, and said lunch was on him. "No it's not," said Pierre, "and I'll tell you why. If I do a review of this place and knock it, you'll call me an ungrateful s.o.b., and if I write a good review, you could think you had influenced me. So we'll pay our own bill; in fact, Stone will pay his, and I'll pay mine." I knew right then that I was dealing with a straight, honest man, who would live up to all the terms of a deal, which we indeed consummated...

Pierre Juneau says CBC-TV will move from its present 70% to 80% Canadian content, at an estimated cost of \$25 million in ad revenue. Present gross is about \$115 million a year... **Herschel Walker**, the controversial football player, is getting about \$1 million to be Adidas' media voice... **Gordon Sinclair** and **Jane Bigelow**, the London broadcaster, are both members of Ontario's bicentennial celebration committee, which also includes **Richard Rohmer**... **Ross McCreath** is serving as chairman of the Radio Bureau of Canada for the current term; vice-chairmen are **Vern Trill** of CHED Edmonton and **John Wright** of CKLC Kingston, **Elmer Hildebrand** is again secretary-treasurer, and new directors are **Bill**

Ballentine of CKFM, **Hal Blackadar**, CKOY, **Ron East**, CJCI, **Walter Machny**, CFAC, and **Jacques Remillard**, CJMS... **Howard English**, CKO executive editor, is making yards with his book on radio journalism, which was assigned by Humber College and will have national distribution when published. Howard plans a great deal of history about news in Canada right back to the very first newscast... *Weekly Music Magazine* is now being syndicated nationally—it's a three-hour show produced jointly by CKXL Calgary and Rogers Productions, and hosted by **Greg Haroldson** of 'XL... **Wally Croner**, a legend in Toronto radio with his over 35 years at CFRB, is planning to begin a daily 10-minute broadcast over 16 southern U.S. stations in November, aimed at the 1.5 million Canadians living in Florida. Wally, now 58, figures it will be his way of remaining in broadcasting when he retires three or four years hence... **Dan Turner**, the Ottawa TV host and journalist, wrote a book on the Montreal Expos that's receiving accolades from sports writers across Canada... *I've found a solution to my weight problem: I bought a metric scale, and now I don't know what I weigh...*

After many years of working for **Bob Redmond**, most recently as manager of CKRY-FM Calgary, **Mike Hansen** became general sales manager for CJCA Edmonton... The big country music man, **Bill Anderson**, is deserting the bachelor ranks: a June '84 wedding is scheduled to **Judy Sanderson**... **Ray Soule** won a well-deserved honor, the Silver Cross of St. George, for his radio programs on CFRB that promote memories of England... **Don Inley**, who retired from Standard Radio as v.p., has been appointed director of the Ontario Safety League board... CFRB now has 37 people who have been with the company at least 20 years... **Ann Rohmer**, Richard's daughter, has made the leap from Global's *That's Life* to CBC national sports as their first female commentator; a former high school track & field athlete, Ann is engaged to skier **Steve Podboraki**. She's also working on the Canadian *Superstar* series to be aired this fall... The Thomson-Brandt electronics group, owned by the French government, has agreed to buy 75% of Telefunken Fernseh & Rundfunk GmbH of West Germany and all its subsidiaries. This would give Thomson-Brandt 20% of the European market for color TV sets, as well as access to manufacture of Fernseh, Thorn EMI and Japan Victor Co. VTRs...

Gord Rawlinson expects to have his new Calgary AM station CFFR on-air this fall... A reminder that the joint 1983 CAB-CCBA-CCBE convention is to be held Octobe 23-25, again at Toronto's Sheraton Centre—the Broadcast Education Association annual meeting will be held immediately previous... CHML Hamilton has made its public service director, **Paul Hanover**, available as a guest speaker to promote the advantages of Hamilton as a business location... **Jim Brady** now doing the morning show on CKAR Oshawa... Speaking of morning types, CFTR has a clever slogan to promote **Tom Rivers'** Saturday and Sunday programs: "Rivers Runs Only on Weekends"... At RCA Records, **Jim Campbell** is manager, product and artist development, and **Mike Galtt**, from WEA Music, is national sales manager... I expect it was a shock to some in the industry when the Television Bureau failed to renew **Len Moore's** contract as president. He'd been with the Bureau for 11 years... **Harvey Gold** left Key Radio as g.m. of CKOY/CKBY-FM Ottawa to become president of CJOR Vancouver. His successor is **Hal Blackadar**, g.m. of CHNS/CHFX-FM Halifax, in turn replaced by **Dennis O'Neill** from CFPL London, who had previously worked with the Key group in Kitchener... CKLN, presently a carrier current station operated by the students of Ryerson in Toronto, has been licensed to operate on 88.1 MHz with 14 watts... *A cynic I know says that the last time there was an accurate weather forecast was when God told Noah there was a 100 per cent chance of precipitaion...*

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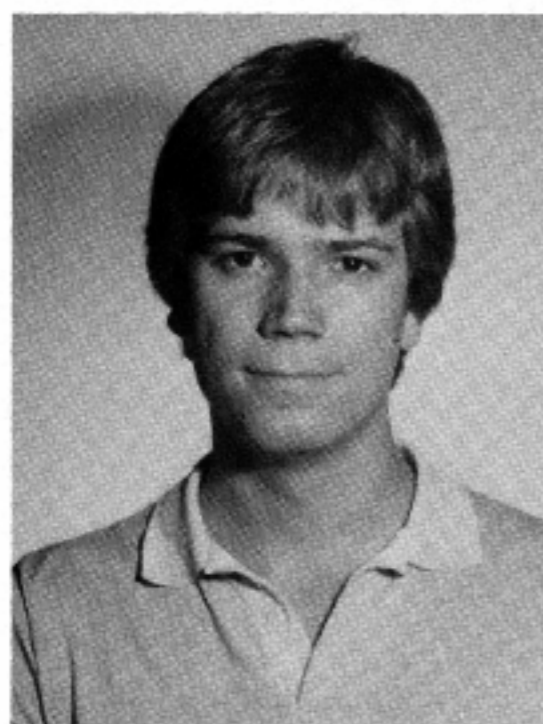
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Peter Brown

The 1982 winners of two awards presented each year by *Broadcast Technology* have been named by the Southern Alberta Institute of Technology in Calgary.

The award winners are selected on the basis of radio and television station design proposals—a major project in the final year of SAIT's Broadcast Electronics Technology program.

Peter Brown has been named for the television award, judged by J.R. (Jack) Quinn, technical manager of the Communications Media department at the University of Calgary. Peter is now employed by S.W. Davis Broadcast Technical Services, Vancouver.

Winner of the radio award, judged by Nick Denesyk of CBC Saskatoon and Albert Koenderink of CFQC Saskatoon, is Chris Dover. Chris is now with Alndon Productions, Toronto.

Broadcast Technology congratulates both winners.



Chris Dover

people / appointments

- Ampex Canada Inc.—**Jean-Louis Major** promoted to president; he joined Ampex Canada in 1960 as a service engineer and was elected a vice-president in 1967.

- CFAC Calgary—**Dennis Stiles**, previously with CJCA Edmonton, named general sales manager.

- CKND-TV Winnipeg—promoted are **Bryan Zilkey**, to general sales mgr., **Bob Milton**, to retail sales supervisor.

- CKOY/CKBY-FM Ottawa—**Hal Blackadar**, Previously vp/gm of CHNS/CHFX-FM Halifax, appointed vp/gm.

- Gellman, Hayward & Partners Ltd.—**Leon Blum**, M.Eng., named a principal (Automated Systems Group).

- General Instrument of Canada Ltd.— promoted are **William H. Lambert**, to v.p. and g.m., Satellite Systems Division, and **John Tamblyn**, succeeding Lambert as v.p. and g.m., Jerrold Division.

- New Brunswick Broadcasting (CHSJ Saint John)—**Kenneth B. Clark** promoted to president, succeeding **Ralph Costello**. Clark had been g.m. for past three years, was previously with CBC Halifax, CJCB-TV and ATV.

- C.M. Peterson Co. Ltd.—**Colin Tyler** and **Jay Ward** named to professional video division of Ontario firm.

- RCA Corp.—**John D. Rittenhouse** appointed group vice-president responsible for Government Systems, Commercial Communications, and RCA Service divisions. He's been with RCA for 25 years.

- Shintron Co. Inc.—**Richard J. Quinlan** named eastern region sales manager; he was previously national s.m. for U.S. JVC Corp.

- Viscom International—**Charles Ram** appointed g.m., satellite services, responsible for leasing satellite facilities to feed Visnews' 250 TV station subscribers in 100 countries.

ROBITAILLE

RETIRES



Glen (Robbie) Robitaille has retired from his post as vice-president in charge of engineering, electronic and mechanical services for CFPL AM-FM-TV and the London Free Press.

A native of Toronto, Robitaille started his broadcasting career as a disc jockey-reporter-technician at CKWX Vancouver, where he became a pioneer in "ENG"—using a short-wave transmitter in the back of a coupe and an 8-foot antenna attached to the bumper! With World War II, he joined the air force, taking electronics training at McGill University in Montreal, then teaching at the Clinton air base near London. From 1945 to 1949, he was with RCA and was responsible for installing 21 transmitters during radio's post-war expansion.

Robitaille's 34-year career with CFPL began in 1949. In 1953, CFPL-TV—one of Canada's first private TV stations—was launched, leading Robbie to become one of Canada's foremost authorities in television engineering. He was chairman of the CAB's telecasting practices committee—which played an important part in launching color TV—and of the CSA committee on video recording standards. And he plans to continue his work on the development of teletext—a major interest in recent years. Walter J. Blackburn, who heads the Free Press/CFPL group of companies, commented that Robbie was involved in virtually every communications advance during the last four or five decades.

Twice, Robitaille was the recipient of the CAB'S Rogers Engineering Award: in 1953, for his work as a founder and first chairman of the CCBA technical committee, and in 1961, for his developments in radio station automation.

Sandy Day says he hope Robbie will continue with his CAB contribution: "He's done wonders for the industry over the years. He's one of our favorite sons. He's called grandfather by some."

Editor's note: Our thanks to Eric Bender of the London Free Press for providing this story; BT joins in extending best wishes to 'Robbie' on his retirement.

CANADA

• **Atlas Electronics**—Jean-Paul Goulet named winner of 1982 sales award.

• **Capital Cable TV**—profits for fiscal 1981-82 \$2 million, up from million, on revenue of \$20.9 million, up from \$13.1 previous year.

• **Central Dynamics Ltd.**—has terminated agreement with Philips to distribute broadcast products. (See E & O.)

• **CHUM Ltd.**—earnings for Sept-Nov quarter \$2.2 million in 1982, down from \$2.7 million in 1981.

• **C.M. Peterson**—named franchised dealer for videotex products by Norpak of Kanata, Ont.

• **Comad Communications Ltd.**—appointed exclusive dealers (broadcast) for Blue Line Pro series of microphones, made in Canada by Canadian Astatic Ltd. Comad also reports that the CBC has purchased a SIRA combiner and 24-panel, 8-bay antenna for the new combined FM facility in Timmins, Ont., capable of handling four 10 kw transmitters. Comad is supplying the complete system, from combiner and patch panel, through the transmission line, manufactured in Ontario by Andrew, to the antenna. This brings to six the number of SIRA FM and TV antennas ordered by CBC.

• **Comfort Sound**—has added 24-track Ampex MM1200, new Audiotronics console. Recent projects include audio for Pay-TV specials, also CITY-TV, CFNY-FM, CHUM-FM, McClear Place Studios, and 18-hour live telethon for Mentally Retarded, latter requiring 54-mic placement.

• **Electro & Optical Systems**—named Canadian representative for Philips and Pye broadcast equipment.

• **General Instrument**—orders for Jerrold pay-TV descramblers have exceeded \$11 million.

• **Honeycomb Telephone Corp.**—new firm, with Seymour Epstein as chairman, has filed applications with DOC to operate cellular mobile radio telephone service in Ontario and Quebec. Cellular system will multiply use of mobile frequencies by dividing heavily-populated areas into "cells",

covered by computer-controlled low-power transmitters. (In U.S., FCC began licensing cellular systems last fall, plans to allow two licensees in each city: one telephone company, one other than telephone company.)

• **Imagineering Ltd. and Immad Broadcast Services**—jointly awarded contract for consolidation of ZBM/ZFB Television in Bermuda, including engineering and design of new facilities, technical installation and systems commissioning.

• **Immad Broadcast Services**—awarded contract by Thomson CSF Ltd. for turnkey installation of TV transmitters, translators and diplexers at some 20 CBC and CHAU-TV sites in the Gaspé region. Completion is scheduled for fall, 1983.

• **J.V. Electronics**—new address for John Visser is 17 Langston Cres., West Hill, ON, M1E 4M2, (416) 284-0900.

• **Key Video Ltd.**—Arthur Critchley advises new address is 108 Carnforth Rd., Toronto, ON, M4A 2L4, (416) 288-0808.

• **Larcen Communications Equipment**—recent contracts include 60 kw (two 30 kw in parallel) transmitters for CBVT Quebec City and WBIQ-TV Birmingham, Alabama; 32, 16 and 5 kw TV installations for the CBC Baie-des-Chaleurs project; and 10 kw FMs for projects at Fort Frances, Kapuskasing and Little Current, Ont.

• **M.S.C. Electronics**—recent sales include a McMichael Advanced Conversion Equipment (ACE) digital standards converter, to Crossroads Communications of Toronto, for preparation of programs to be used in countries with PAL/SECAM systems. M.S.C. also reports purchase of NEC transmitters by CJON-TV St. John's (20 kw VHF); CBC and CHAU-TV Carleton, PQ (two VHF to VHF translators); and CBC Radio (two 10 kw FM units).

• **Nabu Mfg.**—has announced plans for volume manufacturing of Nabu Network products, including personal cable computer, now being tested by Ottawa Cablevision; production is to reach 5,000 units a month by September.

• **RCA**—will supply 400 TV sets for World University games in Edmonton, July 1-11. RCA forecasts that industry-wide sales of VCRs, which were 100,000 in 1981 and about 230,000 in 1982, will reach 350,000 in 1983.

• **Rogers Cablesystems**—reports net loss of \$4.25 million for Sept-Nov quarter; company now has 2,105,000 subscribers in Canada, U.S. and Ireland.

• **Ross Video**—recent U.S. sales include two 20-input switchers to WNGE-TV Nashville; 24-input production switchers to WABG-TV Greenwood, Miss. and WRSP-TV Springfield, Ill.; two 10-4Rs to Fototronics in Burbank, and a 10-4R to KBTV Denver.

• **saTel Consultants**—now distributing SATCOM 12 GHz TVROs and related systems in Eastern Canada.

• **A.C. Simmonds & Sons**—appointed Canadian distributor for Crown International audio equipment.

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HEARINGS

- May 24:** Vancouver, BC
Hotel Georgia
- May 24:** Calgary, AB
Palliser Hotel
- June 7:** Hull, PQ
Conference Centre
- June 14:** Hull, PQ
Conference Centre

APPLICATIONS

Two Seek Vancouver AM

A May 24 hearing in Vancouver will consider two applications for AM in that city:

- Ocean Pacific Broadcasting Inc., for 50 kw day/10 kw night on 540;
- Robert C. Cugnet, for 50 kw day/10 kw night on 650 kHz. CISL Richmond, now on 940 kHz, is also competing for the 650 frequency, proposing 10 kw day/7.5 kw night, with a change of site.

Other noteworthy applications:

- Douglas E. Alteen, for a new station at Corner Brook, NF, 10 kw day/2.5 kw night, on 1340 kHz.
- CKEY Toronto (Key Radio) for an increase in power to 50 kw, moving the transmitter site from Toronto Islands to south-east of Grimsby, ON.

COMING IN JULY/AUGUST

- **BT's 1983 BUYERS' GUIDE and Who's Who Bigger & Better Than Ever!**
- **TELETEXT**
A status report
by Martin Slofstra
- **THE DIGITAL TV STUDIO**
by Ken Davies
- **UHF-TV TRANSMITTING FACILITIES DESIGN (conclusion)**
by David L. George & John F. Hiatt

- CJAB-FM Chicoutimi, PQ, for a power increase from 28.6 kw on 96.7 to 56 kw on 94.5 MHz, moving to a new site on Mont-Valin, and discontinuing operation of its Chambord rebroadcaster.
- CFQX-FM Selkirk, MB, for a power increase from 7 to 35 kw.
- R. Theaker and Saskatoon Telecable both seek cable TV licences in over 20 Alberta centres, to distribute Cancom and other services.
- LeBlanc & Royle Communications has applied to acquire 75% of cable TV and broadcasting properties owned by Norcom Telecommunications Ltd. of Kenora, ON. Included are CJBN-TV, Kenora Cablevision and General Cablevision.

DECISIONS

FM Radio

- CBC rebroadcasters approved at Port Alberni, BC, 98.1 (ex-CBU) and 94.9 (ex-CBUF-FM), both 98 watts ERP.
- Student radio stations approved for Ryerson Institute, Toronto (14 watts on 88.1) and University of Windsor, on (50 watts on 91.5 MHz).
- Reorganization approved for CJGL-FM Swift Current, SK, which has been operating at a loss; same shareholders remain.

Television

- CBC rebroadcasters approved at Ste-Adele, PQ, channels 54 (ex-CBMT) and 15 (ex-CBFT), both 1.25 kw ERP.
- CBC power decreases approved for CBLFT Toronto (from 2,140 to 1,827 kw) and CBKFT-4 St-Brieux, SK (from 1,400 to 140 watts).
- Radio-Quebec use of ch. 32 with 446.4 kw ERP approved at Anse-aux-Gascous, PQ.
- Low-power community rebroadcasters approved at Labrador City/Wabush, NF, and Frobisher Bay, NWT.

Cable Television

Aim Off Target

Aim Satellite Broadcasting Corp. is the successful applicant to provide a general pay-TV service to the British Columbia-Yukon region. While not "fully satisfied" with any of the four applications, the CRTC chose Aim over the other three — Pan Vision West Inc., POV Investments, and WESTV Pay Television Ltd. The service, for which subscribers will pay about \$11 monthly, is to commence operations no later than September 1st.

However, since being approved by the CRTC, Aim's partners have become embroiled in conflict, with president George Spracklin obtaining an injunction which restrains chairman Harold Hine from acting as a director. Hine was to have been the major shareholder, and Aim was reportedly in "deep financial trouble", lacking funds to reserve a channel on Anik C-3 and to purchase equipment.

Aim had promised to spend at least \$12 million on Canadian programming by March, 1987, including \$3.5 million on a daily, hour-long magazine format show which would reflect "life in the Yukon".

Cancom Expands

Canadian Satellite Communications (Cancom) has won approval for its plan to add the four U.S. networks to its satellite service. However, Cancom will continue to be restricted to remote communities, and will not be allowed to see U.S. signals to cable systems in populated areas not yet receiving all of the American networks.

Cancom will add, in scrambled form, the signals of CBS and PBS affiliates in Detroit, and NBC and ABC affiliates in Seattle. VOCM St. John's will be added to the radio service.

In its decision, the CRTC noted that Cancom is available in 700 remote communities, but its priority must be to extend service to another 800 remote locations, as well as to add an Atlantic-area TV station, native programming, and radio stations in Montreal and Moncton — all part of Cancom's original proposal.

Cancom distributors will be required to buy the Canadian service in order to obtain any U.S. signals. The CRTC says that cable is the best vehicle for local distribution, in view of the shortage of frequencies for television re-broadcasters, and a number of licensees are switching from STV to cable. Recent applications confirm this trend.

Other cable TV decisions:

- La Belle Vision Inc. — new system approved at Louiseville, PQ.
- Microbec Inc. — Radio-Quebec deleted from microwave service with establishment of local transmitters; WPTZ Plattsburg, NY, added.
- Transborder microwave approved, when climatic conditions warrant, for distribution of North Dakota signals to cable TV systems in Manitoba and Saskatchewan.
- Armstrong Communications, Niagara Falls and area, denied continued exemption from providing radio service. The system now has 17,000 subscribers; regulations require Class A licensees (over 6,000 subscribers) to provide radio service.