

# in the news

## DOC BACKS CABLE PROJECT

Télécabre Vidéotron has undertaken a four-year, \$4.5 million program to develop a pilot cable TV system in Montreal, which will offer new services such as videotex, security monitoring and home video games. A 250-terminal field trial of Telidon will take place in 1982, supported by \$1.2 million in federal government funds. Also participating are La Presse of Montreal, Hydro-Quebec, Ecole Polytechnique and the University of Quebec. The Vidéotron system is considered one of the best in Canada, providing an innovative 35-channel service and a high standard of community programming. With its recent purchase of National Cablevision, Vidéotron now serves nearly 400,000 subscribers, over half Quebec's cable homes.

## TV ENGINEERING AWARDS

Four major electronics firms have been honored by the National Academy for Television Arts and Sciences for distinguished achievements in television

engineering. All four "Emmys" relate to the development of digital techniques for producing special effects, and the recipients are Nippon Electric and Panasonic (Japan), Quantel (U.K.) and Vital Industries (U.S.)

## CABLE TV FOR AUSTRALIA

Public hearings are to be held in Australia, beginning early in 1981, to prepare for the introduction of cable television. The hearings will be part of a wide-ranging inquiry launched by the Australian Broadcasting Tribunal, which will consider all aspects of cable and pay-TV, including sociological, production, financial and technological. Submissions have been requested by December 15 from organizations and individuals having first-hand knowledge of cable TV in other countries.

## RICHMOND JOINS McDERMOTT

Emery R. Richmond, until recently executive director of Major Market Radio Sales Ltd., Toronto, has rejoined Andy McDermott Broadcast Sales Ltd. as president. Andy McDermott, who becomes chairman, will continue to take an active role in the firm, which plans to open new offices and expand its current list of some 20 Canadian stations, in addition to numerous U.S. and overseas stations. Richmond was at one time manager of McDermott's Montreal office.

## VIDEOTEX '81 IN TORONTO

Described as "a showcase of two-way television systems", Videotex '81 will be held from May 20 to 22 in Toronto at the Royal York Hotel. Exhibits will be at the Exhibition grounds. More than 10,000 are expected to attend the conference and exhibition, the first major videotex show in North America. Sponsors are Online Conferences of London, England, and Informart, 122 St. Patrick St., Toronto, Ont. M5T 2X8, telephone (416) 598-4000.

## TOM DARLING RETIRES

Tom Darling, president of CHML Hamilton, Ontario, has retired after 50 years in broadcasting. He began with Roy Thomson in North Bay and helped to open several of Thomson's radio stations in that area. Joining Ken Soble at CHML, Darling became a familiar on-air voice often subbing for Soble on the

popular *Amateur Hour*, and as manager of CHML went on to pioneer ideas such as talk shows and helicopter traffic reports. Now 70, he will continue as a consultant for the station.

## MONTREUX MAY 30-JUNE 4

Dates for the 12th International Television Symposium at Montreux, Switzerland, have been set for Saturday, May 30, through Thursday June 4, 1981. Parallel television sessions will offer papers on systems and equipment, with two full days devoted to cable TV. Topics include digital TV, satellite systems, teletext, production and post-production. Address for further information is P.O. Box 122, CH-1820, Montreux, Switzerland.

## OBITUARIES

• **Dr. Matti S. Siukola**, noted for his work in antenna engineering with RCA, died in Washington, D.C., on September 19, 1980, at the age of 58. He collapsed while presenting a paper at a meeting of IEEE, of which he was a senior member. A native of Finland, he joined RCA in 1952, achieving distinction for his work in the design of San Francisco's Mt. Sutro multiple antenna installation, and in the development of circularly polarized TV antennas.

• **Les Horton**, who joined CKOC Hamilton in 1921 and remained active with the station until last year, passed away recently at the age of 77. He was one of the first engineers to use crystal oscillators, and saw CKOC through four frequency changes and six power increases, from 20 watts on 630 in 1921 to its present 50 kw on 1150 kHz.

• **Cec Palmer** president of National Electronic Agencies, passed away in Vancouver on September 9, 1980. At one time a fisherman on the B.C. coast, Cec started in electronics with a retail store featuring TV rentals, a business still maintained by NEA. He became importer and Canadian distributor for Shibaden, now part of Hitachi Denshi. A large number of friends and associates joined in paying their respects at the Palmer home, "Palmerosa", on September 11. Cec leaves his wife, Beth, a son and a daughter.

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# Technitopics

by Sandy Day

## Regional AM Conference

Canada's first draft proposals for the November 1981 session should be gazetted for public comment at the end of November. A number of detailed responses from those concerned within the industry are now being considered by the Interdepartmental Committee (CIC) preparing for the conference, assisted by the Government/Industry Working Group.

On the September 26th deadline, the CAB came out with a hard-hitting response to the DOC questions gazetted at the end of June. In no uncertain terms, CAB stated that Canada should fight determinedly for retention of 10 kHz channelling even though it was recognized that 9 kHz could well be forced upon us by the votes of other administrations. The actual membership vote was 97.8 percent in favour of retaining 10 kHz.

CAB stressed that AM was fighting an uphill battle now, against deterioration of the system quality at the transmitter, in coverage problems, and in particular with the fidelity of receivers. On all counts, 9 kHz could only make these problems worse. CAB members could see little if any benefits in 9 kHz, very substantial costs, a long period of disruption, increases in interference, and loss in broadcast system quality. The result: fewer AM listeners.

CAB members supported frequency implementation Plan 1 by 34 percent, Plan 3 by 5 percent, and Plan 4 (which had been called Plan 5 in the CAB member letters) by a clear 61 percent. Plan 4 places the new channels in groups of two every 180 kHz, and half of these new channels coincide with present 10 kHz channelling, opening up the possibilities of some stations occupying a new channel without having to change their frequencies.

## Costs for 9 kHz

The technical costs so far developed were thought to be low by perhaps 60 percent when all factors were considered, including the implementation schedule which would be centred in 1982-83.

The non-technical costs had never previously had a good airing. CAB had turned to a contract study by Masscom Research to confirm their suspicions that non-technical costs, in our world of advertising hype and extreme media competition, could be very significant. Without this detailed study, CAB had assumed that such costs might well exceed all technical costs, but the study revealed that costs for direct advertising and promotional expenses plus the anticipated deterioration in revenues far exceeded the technical, totalling some \$16 millions for Plan 1 (4kHz maximum shift) and \$32 millions for Plan 4 (with its maximum 9 kHz shift). The enormous jump in costs was attributed to the fact that for shifts under 5 kHz, most stations believed that receivers would continue to receive their signals and require only re-touching of the controls, but over 5 kHz, the signals would often be lost, or at least highly-distorted and noisy. The magnitude of these costs, to a large degree was attributable to loss in overall revenues due to general deterioration of AM

quality under 9 kHz, increased interference in outlying areas and near the NIF, and increased interference during an extended transitional period. The costs increased substantially for stations in highly-competitive markets.

## Receiver-related Problems

CAB's responses clearly demonstrated that oscillator interference was no problem whatsoever, and image and second-harmonic interference only a very slight problem. Stations operating on twice-I.F. frequencies were troubled to various degrees by this receiver-generated type of interference. CAB recommended that the existing no-overlap rule for oscillator interference be scrapped, and that image and second-harmonic rules be substantially modified so as to permit significant overlap of coverage areas.

## Inter-Regional Interference

Surprisingly, absolutely none was reported by any CAB member, though one or two cases were thought to exist on the eastern Newfoundland coast. The Pacific coastline stations had never experienced the inter-regional "whistles", the possibility of which raised such concern two years ago.

## Clear-Channel Exploitation

It is expected that CRTC will have opened the door to full exploitation of clear-channels before you see this. Certainly CAB members were strongly in favour of private broadcasters gaining access.

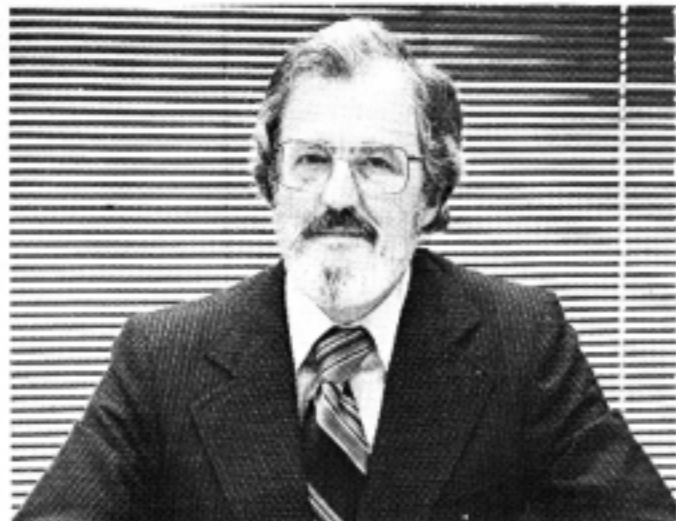
## AM Stereo

Considered essential for Canada when approved in the U.S.A., and particularly in major markets, CAB members indicated that while only one in five would move as soon as possible, 89 percent would expect to operate in stereo mode within two years of its institution. In responding to a different gazette notice about the Table of Frequency Allocations, CAB also reminded DOC of the need for more stereo STL spectrum.

## Growth in Sound Broadcasting

CAB pointed out that, with full exploitation of FM, with expansion of the AM band, and with sound channels from satellites, that over the long term, Canada would have ample capacity for sound broadcasting requirements without resorting to the expense, the chaos, and the deterioration inherent in 9 kHz channelling.

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



# AM BROADCAST RECEIVERS: CAN QUALITY BE IMPROVED?

by Yvon Roy

**Abstract:** During the last few years, we have been hearing about the development of AM Stereo in the U.S.A. with its impact on the quality of AM receivers. This article discusses the application of new technology in view of improving the AM broadcast receiver.

The forthcoming development of AM stereo broadcasting in the U.S.A. will bring a marked improvement in the design of broadcast receivers. The hardware now being designed by Integrated Circuit (IC) manufacturers to amplify and decode the stereophonic information could very well bring a technology which will influence the design of better AM monaural receivers.

In this article, we will review a few of the possibilities that exist to design a receiver with better fidelity.

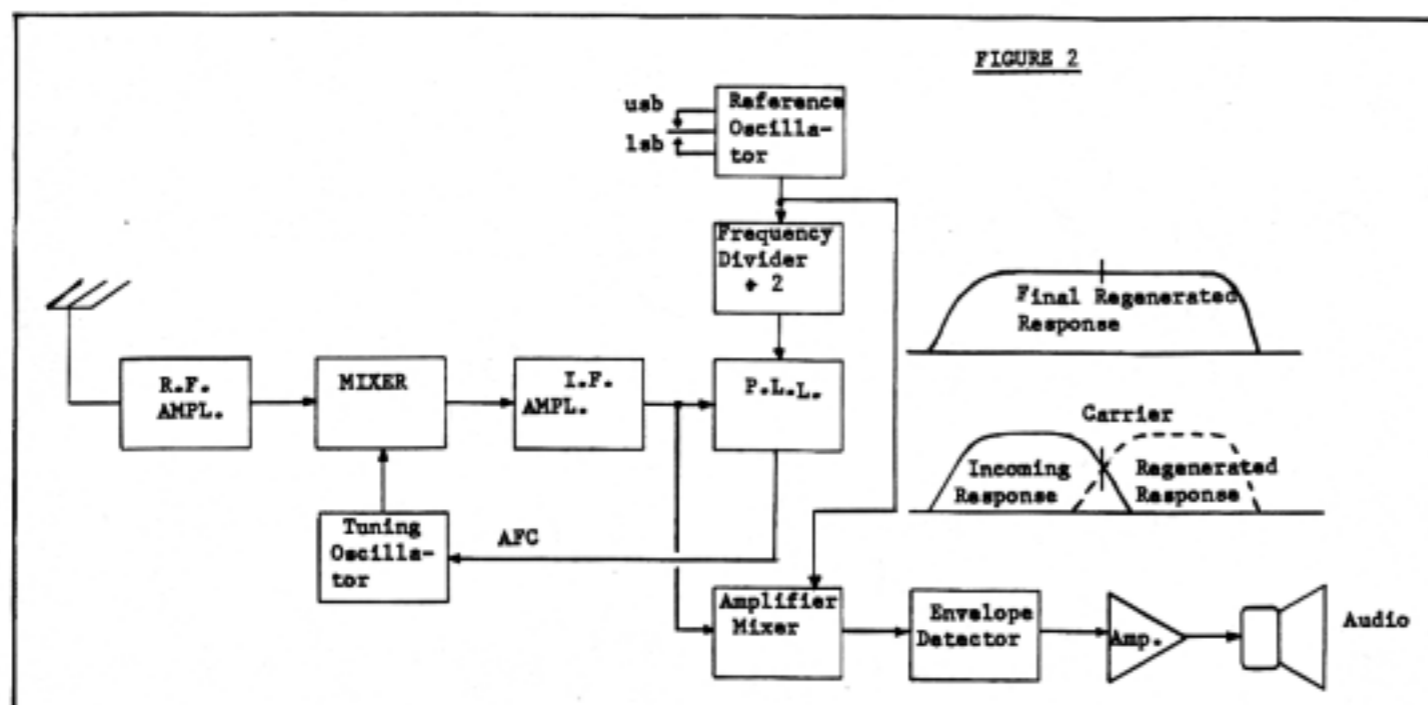
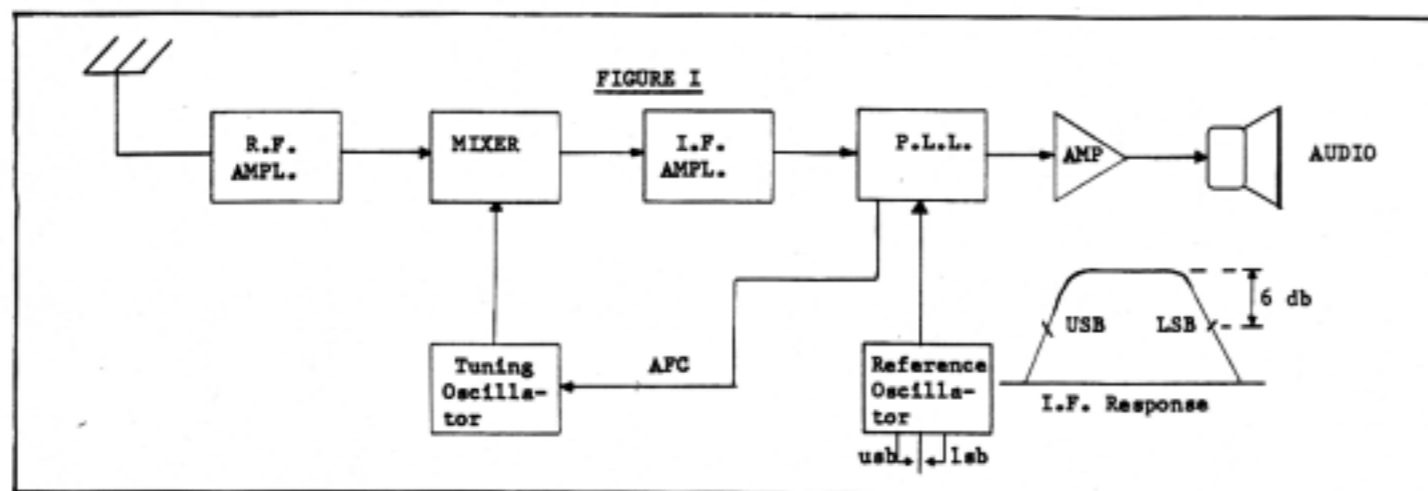
The typical AM receiver that most of us use every day has a very limited passband and reproduces approximately half the bandwidth radiated from the transmitter. Any attempt to

increase that bandwidth generates new problems: adjacent channel interference, higher noise figure, etc. A new approach to design might be necessary and the answer to many of the problems could very well be found in the technology which has been applied successfully to TV receivers, citizens band equipment, etc.

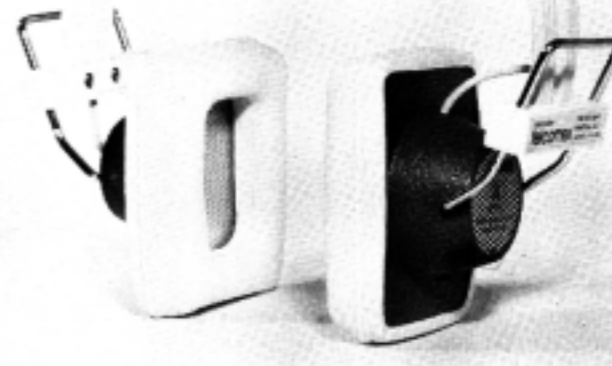
The modern circuit for processing signals is the Phase-Locked Loop (PLL) which is going to be used in the U.S. stereo receivers. If we started the design of a monaural receiver by using a PLL, we could consider the technique of Vestigial Sideband (VSB) reception of the AM double sideband transmitted signal with the following advantages: nearly 10 KHZ of audio frequency response for an I.F. bandwidth (3 DB points) of 10 KHZ with possibilities of receiving either lower (LSB) or upper sideband (USB) in order to reduce adjacent channel interference. Since the PLL contains a product detector (or multiplier), there is no danger of generating harmonic distortion with

the use of VSB reception. Fig. 1 shows the PLL incorporated into the design of a receiver. The use of the PLL with AFC lends itself very well to digital tuning which is now being used in car radios. The PLL is fed from a reference oscillator with two switchable crystals or ceramic resonators. The PLL with its reference oscillator will force the tuning oscillator to receive the incoming carrier on either the lower or the upper sideband as selected. The carrier will fall on the 6 DB point of the response curve. (It is the same technique as used in TV receivers).

The I.F. 3 dB bandwidth is approximately the same as the one used for double sideband reception of present receivers but the audio frequency response has nearly doubled. (See Fig. 3)



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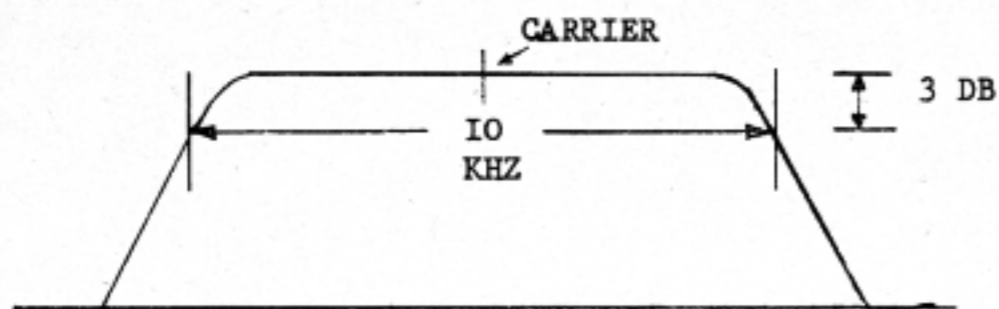
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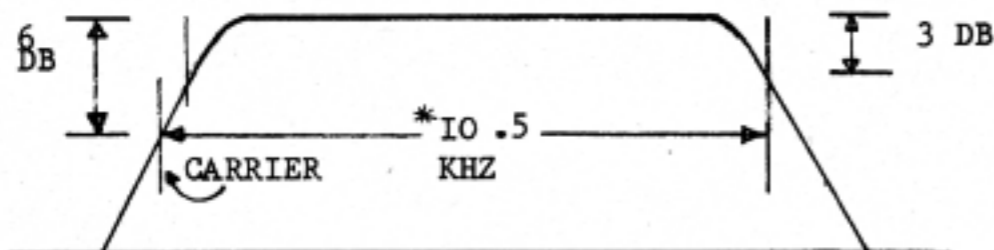
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 AUDIO BANDWIDTH = 5 KHZ



VESTIGIAL SIDEBAND RESPONSE 3 DB POINTS  
 I.F. BANDWIDTH = 10 KHZ  
 AUDIO BANDWIDTH = \* 10 KHZ



\* Approximate figure.  
 Exact value depends on  
 Nyquist slope attenuation.

FIG. 3

One further improvement of the design would make use of the regenerated sideband principle in which the desired audio signal amplitude is doubled while retaining the same value of input R.F. signal, thereby improving the signal to noise ratio by a theoretical value of 3 DB.

Sideband regeneration is accom-

plished by frequency inversion of a VSB signal and is done in an amplifier/mixer combination fed from a reference oscillator phase locked at twice the incoming carrier frequency. Figure 2 shows a diagram of such a design. The reference oscillator (USB or LSB) is divided by two, before being applied to the PLL. The I.F. is injected into the

amplifier/mixer circuit having an amplification gain equal to the mixer conversion gain. A double sideband signal is generated at the output of this amplifier/mixer stage; the signal can then be detected by conventional envelope detection.

**Conclusion**

The possibilities exist of improving receivers and if manufacturers of ICs become interested, we should see a remarkable improvement. The circuits presented in this article may appear complex, but they are simple compared to the IC chroma circuits of modern TV sets where the PLL is invariably used.

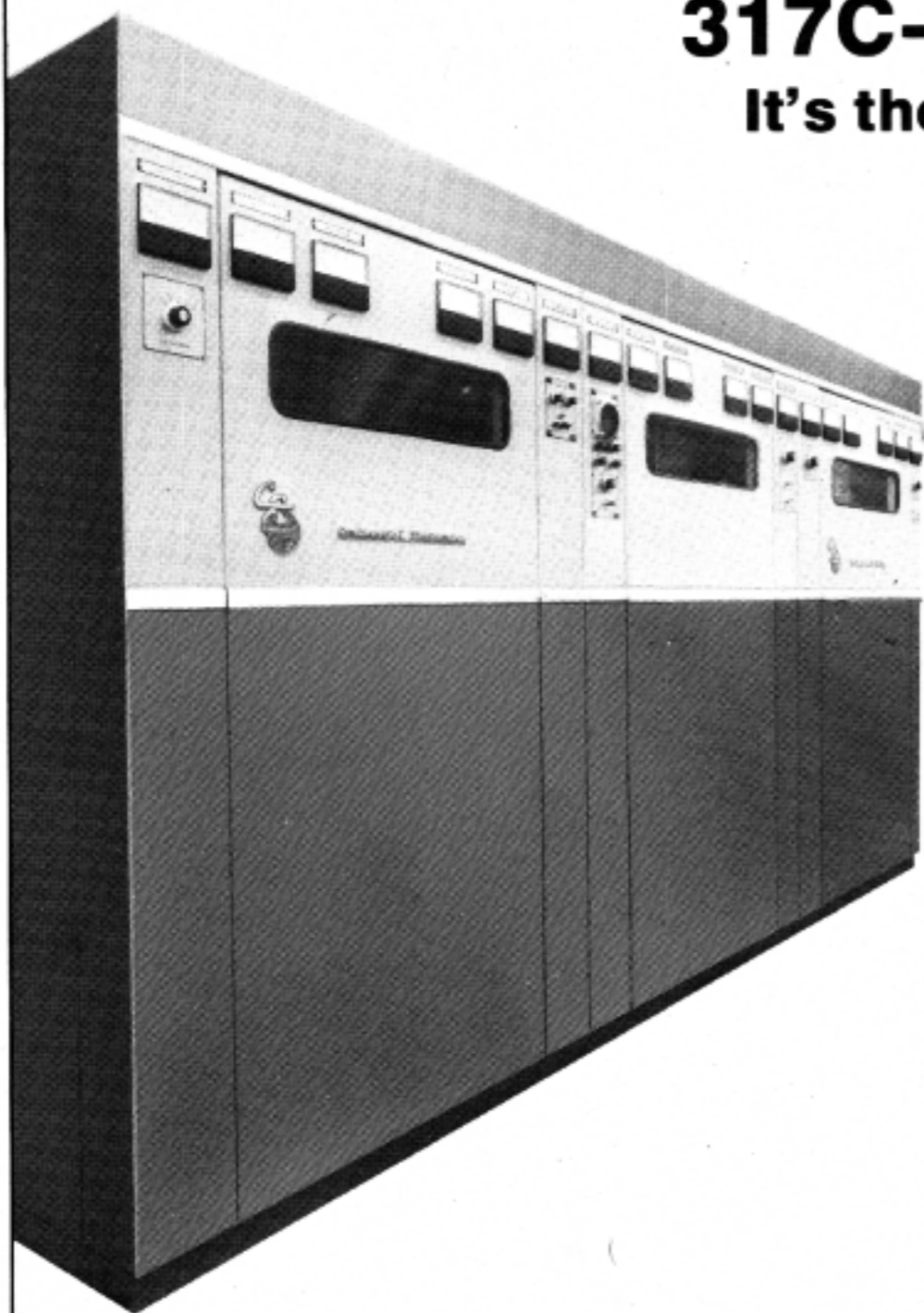


Yvon Roy is Technical Resources advisor, Engineering section, in the French Services Division of CBC/Radio-Canada, Montreal.

Readers' comments or questions on transmission aspects of broadcasting are welcome and may be sent c/o BROADCAST TECHNOLOGY, Box 423, Station J, Toronto, Ontario M4J 4Y8.

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# THE PHIL STONE REPORT

An accountant, as a hoary, corn-infested line goes, is a person who has a lot to his or her credit.

We recently drove out to CHOO Country to interview a former accountant who most certainly has a lot to her credit.

She is Lorna Braid, whom Elmer Hildebrand took from the station's accounting ranks some three years ago to be station manager at CHOO Country Radio in Ajax, Ontario—a town bordering on the eastern limits of Toronto.

We wanted to talk to Lorna because a) there are not that many women station managers in private radio; b) we wondered how a basically non-creative type was doing in the swirling rivers of creative activity, and c) she is an interesting, charming, attractive woman whom we've always found to possess keen insights and acumen.

Accountants though, are stereotyped as pragmatic people, people who don't sway to left or right, black and white people, and generally, not overblessed with imagination. Yet here is one in a business that is the antithesis of all these characteristics.

"Well," said Lorna, "I've yet to determine for myself how come I'm where I am. But what I did find was that my accounting background did stand me in good stead. You have to know black and white from all the other colors. In broadcasting, there are a lot of colorful people, and I love it—the fact that radio people can be fluctuating, impulsive. That's why I don't like being an accountant. You slide into something because you are good at it, and I was always good at figures from 'way back in school and I guess I did slide into it. I liked accounting, but I remember an incident about eight or nine years ago when I went from being an actual accountant to being supervisor of a lot of other people. I developed a sore arm that was so painful I couldn't drive my car. I reasoned that it had to be psychological or traumatic, and it turned out to be very simple. The chiropractor I was going to said, 'You know, you should have held your head up a long time ago.' And that's what it is: you look at books, and you are looking at them from one angle; all of a sudden you just raise your head and

there's a whole new world. And that's what I find about broadcasting."

What created Lorna's success is apparent: she was receptive to "that whole new world," open to it, willing to broaden her vision and accept the challenge of new learning. "Learning to be a broadcaster," she said, "was a lot different for me, compared with people who are trained for it. But I found that people are people, no matter what business they are in, and if you like them and are willing to learn and say 'I don't understand,' then there are an awful lot of people who are willing to say to you, 'This is how it's done.'"



CHOO Radio's Lorna Braid.

As a comparative novice in administration, Lorna has learned well. When one visits CHOO there is a sense of family. Her staff, one can see, respects her and knows she is not narrow in her demands, nor her attitude. They know, too, that any overdisplay of ego, for example, will mean, to quote her, "sooner or later that person is not going to be around."

When she first became manager, the attitude of the staff was one of wait and see. "Not particularly with the people outside the station, but with the people I was working with. I remember it took me three weeks before I had the nerve to sit in the station manager's chair. I thought if I worked up to it it would be better, and stayed on my old accoun-

tant's seat. Then I realized that wasn't fair and I took over the chair allotted to the station manager. But I also knew that I had to move out of that chair, from behind the desk to talk to people and that really wasn't any different from what I had been doing in accounting. I had to accept that I was boss now, but I also knew that I had to earn respect, whether I was the boss or starting as a 'go-for'—no difference."

Lorna didn't hesitate to take the managership when Hildebrand offered it to her. "I liked what I was doing, but felt that I could do the job as manager. Again, it was dealing with people and being part of the community. That wasn't hard because I live here in Ajax and know the people."

Is Lorna Braid a feminist? "I've always said that I'm an adventuress. I've always liked working with men, and I enjoy working with women who are purposeful. I believe if you have a goal, an objective, go after it. Do it! You don't have to make excuses for having ambition."

As a female station manager at a time when more and more women are moving up corporate ladders throughout industry and commerce, does Lorna feel that in broadcasting there is a like trend? "There are many professional women in broadcasting and I think you'll see a lot of them gaining recognition. Most broadcasters are professional business men who have no time for those who just ruffle the edges: but if a woman is genuinely interested in learning—as happened in my own case—men will recognize that. I recall that I was petrified to go to my first CAB meeting, but the other broadcasters soon made me feel comfortable."

Working in a post that generally is a man's province hasn't noticeably, if at all, affected Lorna's femininity. "I'll tell you though," she confessed, "any woman who doesn't use her femininity in her job is a fool, an absolute fool. But, seriously, I don't want to be like a man. I like to be liked—as do most people."

Lorna Braid feels that in a market such as CHOO's (potential circulation about 250,000), radio is community. It's making available a service that people

often don't understand. "I find that with the service clubs and associations that I speak to, most people don't appreciate that radio is here to help them. I try to get across to listeners and advertisers alike that if we know their interests and concerns, then the better we, in turn, can perform a service. We call CHOO a Country-Community station, one that is family oriented, and that community spirit is what we emphasize."

Lorna recently added the role of retail sales manager to her portfolio, because she felt oriented to this phase of broadcasting and secondly, because that's how she likes to work. She wanted to have "been there" when she

dealt with the station's sales/advertising representatives. "You know, it's all very well to tell your sales people to go out and make 15 'phone calls or 15 personal calls in a day. But if you follow that procedure yourself, sometimes you find you can't make 15. It can take an hour-and-a half to explain something to a particular person, and I'm learning that well. I don't intend to be retail sales manager for the rest of my life, but I do want to know first-hand the problems our people are encountering. My mother used to say, 'Whatever you do, do with all your might; things done by halves are never done right.'"

And Lorna Braid—it becomes graphically obvious—is not given to doing

things by halves. She is building a station geared to the community it serves, a philosophy Elmer Hildebrand has long practised successfully in his western stations. CHOO Country is not really attempting to fight the Toronto majors who boom into its market. It offers instead alternative listening geared to local interests. With a new transmitter and a stronger signal, CHOO Country can be expected to make gains in audience and in earnings. A good accountant would not have it any other way—especially one who never does things by halves.



## BROADCAST BEAT

by Phil Stone

When you add **Roy Faibish** to the list of "CRTC people we all knew," it gets to be that at the next hearing you won't be able to tell the players without a program . . . Heading up the sales research department at Standard Broadcast Sales is **Patricia Underhill**. Some will have known her when she was media research manager at Vickers & Benson . . . **Ward Cornell** is back in our midst after about 10 years in Britain. The one-time hockey broadcaster is working as deputy secretary for social development in Ontario. As itemed here earlier, that's his daughter, Susan, at the CCTA . . . Don't ask **Bob Hesketh** about his kidney stone operation. He'd like to forget it . . . All those newspaper foldups could be a blessing in disguise for broadcasting. Experts feel the surviving newspapers, particularly those who are the only daily print game in town, will raise their advertising rates and perhaps, perhaps, some advertisers will take their budgets to radio or TV . . . **Kim Noel** rose from the rank of salesman at the SBS office to that of vice-president/assistant manager . . . If you run a station in Ontario in an area that doesn't carry our *Arts in Ontario* program, you can get this weekly 15-minute program without fee. It features interviews with stellar figures from all areas of the arts—theatre, music, literature, film, painting, visual art—and has two doughnuts allowing for two minutes of local insertion, commercial and/or PSA. For details write or telephone **Sheila Watson**, Ontario Arts Council, 151 Bloor St. West, Toronto, (416) 961-1660. Program is recorded at Eastern Sound and tapes are mailed to you for use at your discretion . . .

When **Margaret Atwood** wrote her best-seller *Surfacing*, I wonder if she had **Leo Cahill** in mind. The one-time Argo coach, if you haven't heard, is back on air, doing sports commentary for CFGM . . . Those seeking word of former Global-TV news chief **Bill Cunningham** can be advised that as we write he is comfortably ensconced at CTV, producing the Station's Big One, W5, among others . . . Toronto's supper-time TV news programs are becoming a battle of female anchorpersons. At CBLT it's **Sharon Dunn**; at Global, Pierre Trudeau's erstwhile press secretary, **Suzanne Perry**, and at CITY-TV, the ubiquitous **Dini Petty** . . . We were shocked by the passing of **Andy Rodgers**, publisher of *Marketing* who was only 59. He always had a keen interest in the broadcast scene . . . **Ruth Pinkerton** moved to Kert Advertising as media director from her post of president, Intermart's Media Data Centre . . . **Betty Abrams**, the sterling PR voice of CFRB advised that a long-time acquaintance of ours almost since

we broke into this crazy business, **Don Insley**, has been upped to v.p. radio division, of Standard Broadcasting Corporation. Succeeding Don as v.p. and g.m. of CFRB is another long-time acquaintance, **Bill Hall**. Congratulations to both fine gentlemen. We were also pleased to hear that **Pat Kiely** was made secretary-treasurer of the radio division of Standard . . . With NHL hockey back at CKFH (via the Hewpex Sports Network), **Ron Hewat**, who is the play-by-play man, joined Opex Sports and Syndication . . .

**Sjef Frenken**, with whom we worked during the early CHUM-FM days, is now director of policy development in the broadcast programs directorate at the CRTC. Sjef had been senior planning officer. The new director of operations for the broadcast program directorate is **Fern Belisle**, the chief of financial operations in the financial and corporate affairs branch of broadcast planning and development directorate. And lastly, a big one for many of our readers to take note of—**Vince Lee Chong**, chief of planning for the cable, radio and television operations branch, became director of cable, radio and TV operations in the broadcast programs directorate . . . Moffatt Communications is still trying to get into Ontario. Refused CKOY and CKBY-FM, Ottawa a while back (actually on two occasions), Moffatt is going to ask CRTC permission to buy CJJD from **Keith Dancy**. Keith, who bought that Hamilton station from **Ted Rogers** just under four years ago, will hold on to his other station, CJRN Niagara Falls . . . I know a broadcaster who knows a broadcaster who hasn't applied for a new licence in Calgary. The CRTC is certainly going to have a torturous time going through the mountainous numbers of applications to get AM and/or FM licences so that broadcasters can hopefully sit in the lap of Loughheed's luxury . . . By the time you read this CJRT-FM should be broadcasting from the CN Tower with increased power . . .

If you carry stock reports on your station you will be interested to know that the Toronto Stock Exchange will ultimately be moving to First Canadian Place. That's the massive complex that stretches along the north side of King Street West, from Bay to York, which replaced (among other buildings) the *Toronto Star* and *Globe & Mail* . . . **Peter Liba** became executive v.p. of CanWest Broadcasting as well as station manager of CKND-TV. The Winnipeg independent became the first English-language station in Canada with round-the-clock programming when it went 24 hours a day

on October 1st . . . **Ted Rogers**, whose holdings include CKJD Sarnia, hopes to have his affiliated FM station in that city on the air by next spring. He got CRTC approval over **Rick Richardson** who owns CHOK Sarnia in addition to his London stations . . . The CBC's plan to create a second TV network using cable facilities is apparently going full-steam ahead, with a target date of December, 1982. The non-commercial net would broadcast in both French and English . . . **Mark Lewis**, the former counsel to the CRTC and CTV, advises us that he is now associated with the law firm of Glinert and Lipson in Toronto and is restricting his practice to administration, copyright and media communications law . . . Sorry to note the passing of **Les Horton**. He entered radio in 1922 with CKOC Hamilton, one of Canada's first stations, and was the chief engineer for 51 years, retiring in 1973 when he was 70. His brother, Reginald, worked for the CBC. Les was a founding member of the Canadian Association of Broadcasters.

There was dramatic, graphic proof recently that the print media can benefit from the electronic media. When Western Broadcasting sold its 26% interest in Premier Communications for \$25 a share (purchased for about \$11 a share), it used the proceeds to declare a special dividend. Torstar the corporate giant whose holdings including the mighty daily, *The Toronto Star*, came out with \$6.1 million—\$5 a share on its 1,223,000 shares of Western's A stock . . . **Ron Keast**, who was head programmer at TVOntario, has become head of the TV-Radio department at Ryerson Institute of Technology, which turns out some very good young people for the industry . . . When the Hewpex Sports Network returns with the play-by-play of the Toronto *Blue Jays* baseball games in 1981, the commentating team of **Tom Cheek** and **Early Wynn** may be broken up. Toronto sports page rumors are that former major league pitcher Wynn may be lifted for a reliever . . . Anik B, the dual band satellite that provides 12 channels in the 6-4 band and four channels in the higher frequency 14-12 band, will be contributing to still another Canadian first. That is the operation of a commercial satellite service on the 14-12 gigahertz band. A group of Quebec cable television firms are leasing one of Telesat Canada's Anik B channels to beam TV programming from an earth station in Montreal to 40 systems throughout the southern area of Quebec province. The consortium, Société d'Édition et de Transcodage T.E. Ltée (acronym is SETTE), is leasing the channel through which it will relay a package of television programming produced in France and will operate on a 14-hour daily schedule. All this just two years after Anik B was launched in 1978 . . .

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Did you know that Argentina did not get color television until May of this year? This not only gladdened the hearts of the gentry, it also brought a big smile to the Electronic Industries Association of Japan and its gentry. Last June they exported 1,030 color TV sets to Argentina. In July that jumped dramatically by some 1400 per cent to 15,117 units. The Nipponese total world-wide exports of color TV units this past July (the last month for which figures are available), numbered 348,731. That was up 21.6% from June and 44.9% over July of 1979 . . . The U.S. is to get an all-black television web, Community Television Network, with headquarters in Memphis and initially operating in at least 12 other cities with low power UHF stations. The FCC has authorized the project, which is expected to go to air next spring in such major markets as Dallas, Seattle, Denver, Houston, Kansas City, St. Petersburg, Tampa, New Orleans, San Antonio, Louisville and St. Louis . . . At A.C. Nielsen Co. of Canada Ltd., **Everett C. Holmes**, a v.p. of the firm whose services include TV audience measurement, became planning officer of its marketing research group . . . The NRBA newsletter reports that KARM in Fresno, California, has a most unique format—or formats. Each day's format is based on listeners' telephone requests from the previous day. So in a given week they could have country, adult contemporary, big band, superstars, 50's hits, Broadway show tunes and early 70's. The pool of formats also is determined by audience requests. If continuity is the key to radio success, as people like **Allan Waters** claim, then this station is as out of it as mini-skirts or smiling bus drivers. However, it's quaint enough to perhaps be an answer to a station that is at the bottom rung in its reach area. Problems could be: a) who would have a library that big? and b), who has announcers who could be knowledgeable and at home in that many varieties of music fare? Reminds me of when I came into radio: except for **Jack Kent Cooke's** block programming at CKEY, most stations had as many varieties of shows, from religion to rhetoric, as their announce staff had hang-ups!

Does the name **Joan Fairfax** bring back memories? Recall the early days of TV in Canada—**Wally Koster**, **Sylvia Murphy** and Joan? She's now 50, happily married to a successful U.S. businessman and still does the occasional singing assignment. Wally, sadly, passed away some time ago. Sylvia, married to **Charles Templeton**, and then divorced, remarried and the last we heard was living in New York . . . Cancer claimed the lives of two Canadian musicians, both prominent in the formation of Canadian Talent Library. We lost **Teddy Roderman**, one of North America's great trombonists, and arranger-composer-conductor, **Johnny Burt**. **Nancy Burt**, who worked at the CBC, then taught in Humber College's Journalism course before becoming news editor at CKO, Toronto for a time, is Johnny's daughter . . . **Peggy Loder**, a famed radio actress with the CBC during its halcyon days of drama, is Teddy Roderman's widow . . . World-wide, at the end of 1979, there were 465 million TV receivers, compared to 429 million a year earlier. The U.S. has the most—156 million, 2 to 1 over second-place Russia with 70 million. The U.S. also leads the world in the number of TV stations, 1,007 . . . The financial reporter for CKEY is aptly named as he reports on the stock market, gold stocks and the state of the Canadian dollar. His name is **William Monopoli**. A free-lancer with 'EY, he works for *Financial Post* . . . Have a definition of a communist: A fellow who thinks everything in Russia is perfect but would rather stay in Canada and rough it . . . Success in this world is relative. Like if your father owns the station . . .



*Phil Stone is a well-known writer, broadcaster and educator, based in Toronto. His Phil Stone Report and Broadcast Beat are regular features of BROADCAST TECHNOLOGY.*

NOVEMBER/DECEMBER 1980

# business report

## CANADA

- **Broadcast Holdings Ltd.**—developed and co-ordinated live medical symposium originated in four cities on September 24 and relayed across Canada via Cable Satellite Network, CNCP Telecommunications, telephone companies and cable TV systems. Sponsored by Syntex Inc., a pharmaceutical company, the symposium originated in Vancouver, Toronto, Montreal and Halifax, with two-way audio and visual exchange between speakers and audiences in each city. In addition, IN-WATS telephone lines enabled callers to direct questions to any speaker, and simultaneous French translation was provided for distribution in Quebec. Producer-director was Rick Francis of CFCN-TV Calgary.
- **Broadcast Video Systems Ltd.**—now exclusive Canadian distributor for Crosspoint Latch of Summit, N.J., switcher manufacturer.
- **CCTA**—has established permanent "Videothèque" video-cassette library of cable TV community programming, open to public, in Ottawa offices.
- **Digital Telecommunications Ltd.**—has received \$2.4 million contract from Phillips Cable Ltd. to provide video encoder units for fiber optic network in Saskatchewan. Operated by Sask-Tel, 2,000 mile network is world's first commercial application of digital TV via fiber cable, will be completed in 1983.
- **Grand Records**—new division of Grand Entertainment Corp. will specialize in adult contemporary music, to be pressed and distributed by Capitol Records-EMI of Canada.
- **Harris Systems Ltd.**—recent broad-

cast transmitter installations, now on air, include MW-50A with MW-10A standby for CJMS Montreal, and MW-10As for CJOC Lethbridge, CKCL Truro and CKBC Bathurst. Meanwhile, Harris RF Communications division has named Rodney Franklin of Toronto office "salesman of the year" for highest percent of sales over quota in North America during fiscal year 1980.

- **Ottawa Cablevision**—claims a cable TV first in weekly simulcast of *No One Came*, stereo broadcast of local musical talent originated by CKCU-FM at Carleton University.
- **RCA**—reports 1980 sales of videocassette recorders are double 1979's, reflecting growing consumer interest in home VCRs.
- **Standard Broadcasting Ltd.**—has purchased CKTB and CJQR-FM St. Catharines, Ontario, owned by Burgoyne family for past 36 years, subject to CRTC approval.
- **Telidon**—Canadian videotex system purchased by Venezuela in \$750,000 contract through Infomart of Toronto. Six input terminals and 30 display terminals will be installed throughout city of Caracas to provide access to government information.
- **3M Canada**—will hold all-product exhibit in Calgary Convention Centre, November 19-20. Western show follows successful first show in Toronto last May; admission is by invitation only, obtained from any 3M rep.

## UNITED STATES

- **Digital Communications Corp.**—M/A-COM company has opened new facility on 52-acre site in Germantown, Md., with 165,000 sq. ft. capacity which will eventually expand to 585,000 sq. ft. Among DCC's products is digital audio equipment for television, now used by over 100 PBS stations, to provide four 15 kHz audio channels along with video on satellite interconnect system.
- **Electronic Distribution Show**—will be held May 5-7, 1981, at Hilton Hotel, Atlanta; is expected to attract 7500, including 2400 personnel from 1300 exhibitor companies. Second Sound & Communications Conference will be held in conjunction with EDS '81.
- **Harris Corp.**—has supplied transmitters to WNJU-TV Newark and WCBS-TV New York, which along with WXTV Paterson are first of nine TV stations to move from the Empire State

Building to the 110-story World Trade Center. On west coast, KQED-TV San Francisco is installing two 50 kw units at Mount Sutro site. Other recent sales include a 55U for pay-TV station WRHT Ann Arbor, Mich., a 110U for WGBX-TV Boston, FM transmitters for WTSU Troy, Alabama, WKSU Kent, Ohio, and WVIK Rock Island, Illinois, and a 40 kw AM transmitter for KUAT Tucson, Arizona. Meanwhile, Harris' new SSL (satellite to studio link), introduced at NAB this year, has been installed by seven TV stations across U.S., most employing the 8.8-meter size dish.

- **McMartin Industries Inc.**—first of new BA-50K AM transmitters sold to KIQI San Francisco; second will go to a Brazilian station, with a number of additional sales pending.
- **North American Philips Corp.**—purchase of consumer electronics divisions of GTE expected to be completed in December. Agreement includes TV receivers and components marketed under Philco and Sylvania brand names in U.S. and Canada, as well as plant in Juarez, Mexico; is expected to strengthen competitive position of Philips' Magnavox and Magnavision lines in U.S. market. A report by International Resource Development Inc. says GTE, which sold its European SABA business to a French company earlier this year, found it increasingly difficult to compete against Japanese consumer products.

- **ProTech Audio Corp.**—has moved to new facilities at Flowerfield Bldg. #1, St. James, N.Y. 11780, telephone (516) 584-5855.
- **RCA Cablevision**—awarded \$21 million contract by UA-Columbia Cablevision for second phase of system in San Antonio, one of largest in U.S. Project will add 2,000 miles to system, using 5,700 amplifiers and 55,000 taps. Programs are distributed from nine headends, permitting local programming for different areas.
- **RCA Broadcast Systems**—engineer Laurence J. Thorpe and team consisting of Robert Dischert, Robert Flory and Charles Oakley have won 1980 Sarnoff Award for development of microprocessor controlled automatic studio camera system (TK-47).
- **Scientific-Atlanta**—will supply 900 3-meter antennas to California Microwave during the next year for satellite distribution of Associated Press audio

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## business report

and newswire services. Other recent orders include \$1 million for 15,000 set-top terminals for 50-channel Cable Atlanta system, and two complete cable systems for Kennedy Cable Construction, also in Georgia.

● **Times Wire & Cable**—awarded \$5 million contract for coaxial cable by Warner CATV system in Pittsburgh; will also supply cable for 52-channel, \$3.1 million system in Peabody, Mass. Times recently installed a new \$2 million fiber optic production facility, which includes capacity to combine up to 18 fibers into a single weatherproof cable.

● **Tocom, Inc.**—has granted licence to CableBus Systems Corp. of Beaverton, Oregon, permitting continued use of a cable TV security system which infringed on two of Tocom's patents covering two-way interactive digital communications.

● **Westinghouse Broadcasting**—\$640 million transaction would merge broadcast properties with Teleprompter Corp.

### INTERNATIONAL

● **IABM**—new headquarters of International Association of Broadcasting Manufacturers is at Triumph House, 1096 Uxbridge Road, Hayes, Middlesex, UK, UB4 8QH. Formed in 1976, IAMB has 57 member companies.

● **MBI Broadcast Systems**—first U.S. showing of series 24A stereo mixer is scheduled for AES in New York. Mixer was introduced in UK in June.

● **Pro-bel Ltd.**—two switching systems valued at \$500,000 delivered to Thames Television.

### PHILIPS, SONY, PROPOSE DIGITAL AUDIO STANDARD

N.V. Philips of the Netherlands and Sony Corporation of Japan have collaborated in improvements to the Philips optical digital compact disc system, and hope to have it adopted as the international standard.

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Agreement is signed for new equipment to upgrade Premier cable TV systems in Vancouver area to 24-channel capacity by August, 1981, part of \$31 million program which will expand capacity to 35 channels by December, 1985. Seen (seated) are Merv Hussack of Century III Electronics and George Fierheller, president of Premier Communications; (standing, from left) Bob Peake of Premier, Charlie Hawson and George Harvey, both of Century III.

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# ELEMENTS IN THE MODERN AUDIO PROCESS

by Rob Meuser

Over the past two years, the CKOC technical staff has been involved with the completion of a new transmitter plant. The basic plant was constructed by S.W. Davis Broadcast Technical Services and was designed by D.E.M. Allen Associates. During the final phases of completion, an effort was made to optimize all the elements, from the studio to the antenna, in accordance with the most current theories and the state of the art.

The two primary elements of any new system are the transmitter and the antenna systems.

In the selection of a transmitter, the market and the power level frame the range from which one can select the most suitable unit. While any modern transmitter is capable of reaching 100% negative and 125% positive modulation, there is a substantial difference from one unit to another over what kind of waveform reaches the 100% mark. Since most audio chains use at least some peak clipping, the transmitter must be able to reproduce the squared waveforms accurately. This requires both good low frequency response and linear phase response over the audio range. If the transmitter "rearranges" the waveform, the signal that hits the 100% mark is often called "overshoot"—the average power is at some lower level (see the exaggerated cases in Figure 1). Years ago, this effect was most often noticed when the modulation meter never got near 100%, while the peak flasher and the oscilloscope showed full modulation. Some engineers blamed the limiter or even the modulation monitor. Often limiters with no clipping, but high limiting ratios (30:1) and very fast attack and release times were used, but at the expense of some quality.

Once an engineer is aware of what to expect from a given transmitter design, selection of the unit can be based on the budget and the market. In a large market, it would be the obvious choice to select a transmitter capable of maximum use of the RF envelope. While a smaller station might elect to sacrifice some loudness and/or quality because

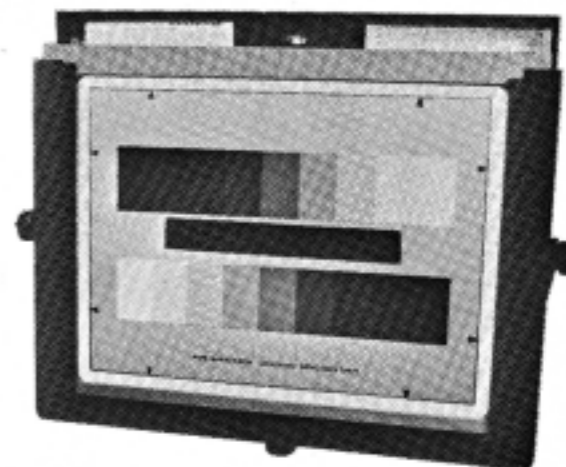
of budget restrictions, the most important point is that both the programming and technical staff know in advance what they will get for their money. At the CKOC plant, the power level was 50,000 watts, thus restricting the choice of transmitter to two brands. The Continental 317C- was the type selected.

If we assume the selected transmitter is now a black box that reproduces whatever is put in, then the next point is the antenna. In a modern broadcast plant, the realization of a broadband directional antenna system can present some considerable conflicts. It is basically the consultant's problem to devise a layout that will perform well over the complete audio range. Things such as the tower height (as it affects to operating impedance) and power divider design are all important. It is a good idea for the station engineer to make his desire known that the system should be "broadbanded". It is also helpful to spend as much time as your schedule allows in the final phases of tuning so that you know what kind of match exists and the exact limitations on various transmission lines.

The interface between the transmitter and the antenna is the load. The important point to consider with loads is what the transmitter actually sees at its output and how well that match (at carrier) is transformed into the antenna system across both sidebands. A number of papers published in recent years tell of the importance of having symmetrical sidebands present at the receiver in the far field, sideband symmetry, antenna response, etc. In the practical case of the real world, one can only assure that the load is symmetrical (impedance goes either higher or lower on both sidebands at roughly the same rate) and turns in the right direction to suit the transmitter. If the antenna is as broadbanded as possible, and the load is as close to optimum as possible, the only remaining test is to view the exact system response via spectrum analyzer.

Figure 2 shows the response of an antenna system seen from 20 miles in the main lobe. →

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When all the above is done, then the results can be reviewed by you and your consultant. You will then determine whether the performance is satisfactory and whether it is advisable or financially feasible to "try for more". When our idealized transmitter is connected to our optimized antenna system, we no longer have the same optimum conditions. The frequency response coming out of the transmitter into the common point will be changed. If it rolls off (sidebands higher in impedance) it may be all right. This depends in part on how bright your on-air sound is. If you use a lot of high frequency boost, you will need extra to compensate the roll off. If the response rises with frequency (load lower impedance for the sidebands), you will probably have overshoots in your envelope.

The object is to make the transmitter input to the antenna output as flat as possible to a desired maximum audio frequency, then roll off gently (this rounds the corners of your clipped wave, but does not reduce the average power). Don't try to "EQ" out the roll off, this creates more clipping and distortion. The wider power band width puts frequencies outside the audio range through the antenna and the transmitter finals, the entire system must then work harder. This enhances the likelihood of "trip-outs" and component failure.

Once we have optimized the transmitter input to antenna output, we must correlate the transmitter modulation monitor with the far field measurement (the one that reaches the DOC). An easy way is to use the studio modulation monitor or a scope at some distant point. If you find a substantial difference between the transmitter and the field measurement, the transmitter sampling point should be adjusted to agree with the field measurement. When using remote studio monitors, don't forget the effect of filters in the RF amplifier and the pickup antenna response. We have now built a system that will faithfully reproduce its input and can be accurately measured. The next problem is to introduce program material. With the introduction of program material that is directed toward the average receiver, we are irrevocably thrust into the world of "Audio Processing" and "Psychoacoustics". The above statement may arouse those who think they don't believe in either, but is nevertheless the technical bottom line of AM radio. Unless you can achieve a flat, distortionless audio response from your source material to the speaker output of the average radio, there is some element of psychoacoustics involved in your audio process. If you have done anything to alter the program material in either frequency

or amplitude response, you have "processed" the audio.

#### The Audio Chain

There are two basic layouts for audio chains. The classic layout distributes a portion of the chain at the studio and the remainder at the transmitter. An alternate configuration has a single black box at the transmitter: it requires basically un-altered signals from the studio.

Another element in some audio chains is an STL link. The STL link has many advantages, however it is also another transmitter that must be protected from overmodulation. In the most basic layout (figure 3), there is a level controlling device, some form of "brightening" (Dynamic or static equalization) and a peak limiter. The level controlling device might be adequate to prevent STL overmodulation if there is a surplus signal-to-noise ratio. The "brightening" or EQ should be carefully thought out in relation to the STL. If located at the studio, it could create the requirement of another peak limiter to protect the STL; at the transmitter, it might enhance line or STL noise. Another solution is companders. Companders are matched compression and expansion devices. McCurdy tele-

communications manufactures a matching compressor/expander package, there are also DBX compander systems and, of course, the Dolby system for dealing with high frequency noise. When the studio-transmitter link (telco or STL) is under control, the audio chain can be arranged to suit other operational requirements. At CKOC, the studio transmitter link (with compander's telco line feeding at STL) has a signal-to-noise in excess of 76 dB with a 10 dB headroom allowance. Operationally, the signal-to-noise is 66 to 70 dB, since a PPM is used to monitor levels.

Once we have the freedom of choice in the placement of audio equipment, we are able to choose what equipment goes where and freshly select among the various devices available. A typical audio chain might consist of an audiomax, presence enhancer and volumax. Such a system, unmodified, provides for an approximate 10 dB dynamic range with short peaks limited to avoid excessive modulation. The average modulation of such a system can easily be 70% or less. Many stations have modified and/or pushed the aforementioned equipment to higher average levels. There are usually unpleasant side effects. →

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### Selection of Equipment

There is an abundance of equipment available to perform the various styles of "processing" done today. The selection and even the adjustment of such equipment becomes a very specialized procedure. We have now reached the grey zone that oftentimes brings the program director and the chief engineer face to face. Most equipment, when properly operated, will supply a pleasing sound. Almost without exception, there are not any devices that will provide for full time 125% positive modulation. In the average case, the devices in the audio chain will assure that the most positive portion of the signal is positively modulated. With normal audio, the asymmetrical modulation comes from speech and the solo portions of vocal selections. It has become common to supply additional clipping to cause asymmetrical modulation with music. When such a goal is attempted, we are now operating beyond the bounds of the equipment specification. Asymmetrical clipping for music requires yet additional clipping (on the positive peak) for speech. If positive clipping is not used, many transmitters will "squash" the excessive positive peak, or the antenna system will be driven to excess. The result of any of the above measures is generally excessive bandwidth. An excessively broad signal is not only illegal, it is hard to tune, stresses some antenna systems, and can be one of the causes for a "hard" sound. If asymmetrical clipping is avoided, the station will probably not be as loud as others in the market.

One of the most misunderstood of the audio processing devices on the market is the Orban AM Optimod. This device, when properly adjusted, can bridge the gap between loudness and

bad sound. However, it too can only provide a limited amount of asymmetrical modulation without being driven to excessive distortion. The Optimod is really capable of operating in any format once the basic rules are understood. The Optimod is not, however, capable of supplying a steady 125% positive modulation without some unpleasant side effects. One solution to this problem is to eliminate the asymmetrical portions of the program material. There are devices available to redistribute asymmetrical voice peaks. If the program audio is all symmetrical, then two things happen:

- (1) the average levels are higher for a given amount of compression and limiting action;
- (2) there can be no positive modulation without clipping.

If it were possible to operate the Optimod with adjustments that allowed for clean music and speech at high average levels; and if it were possible to provide some extra clipping and compensation for carrier shift on an "as needed" basis and, at the same time, provide for a full asymmetrical envelope that did not exceed the legal bandwidth, we would have the ultimate state-of-the-art equipment.

Over the past two years, we have tested various equipment and combinations of equipment. The end result is a combination of equipment called the Ultimod Package. The equipment package is capable of providing the maximum amount of loudness for a given amount of degradation. It is being made available through MSC Electronics as a complete package. The package provides for almost distortionless positive modulation, maximum average level and final control of modulation. As with any other equipment, the range of adjustment starts with

minimum alteration of sound to beyond the limits of ultimate loudness. The maximum benefit is realized with an average AM format and the maximum amount of clean, easy to tune modulation. The package has in excess of twenty-five different adjustments. Each adjustment plays a role in the ultimate sound of the station. Accordingly, field adjustment, or telephone consultation will be made available on a restricted basis.

The only limitation involved with the total package is the quality of audio available from the studio, transmitter and antenna. In the case of older plants, it might be wise to have your consultant assess the system's ultimate capabilities.

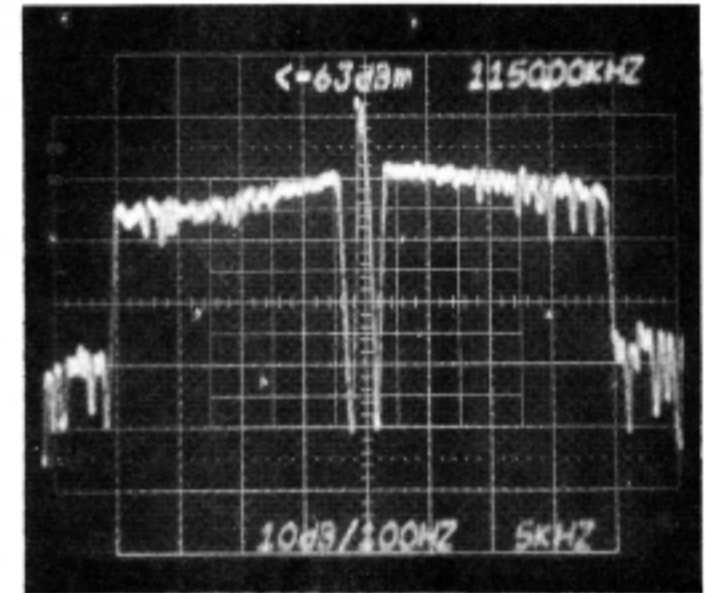


Figure 2A: Five towers at 20 miles in main lobe. Response obtained with a 7L5 analyzer and slowly swept tones.

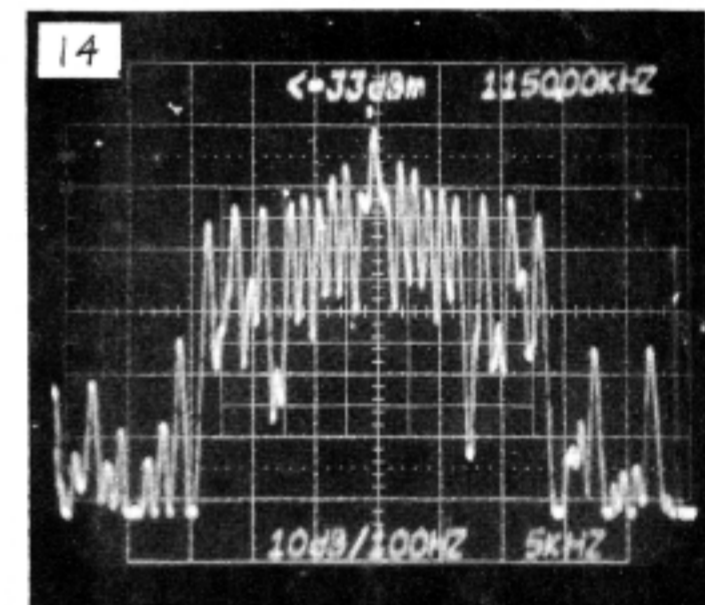


Figure 2B: Three towers at 10 miles in main lobe. Response with same analyzer, but with spot tones from a discrete frequency oscillator.

In figures 2A and 2B, it is important to compare the relation of the upper to lower sidebands, not the frequency response of the tones relative to others.

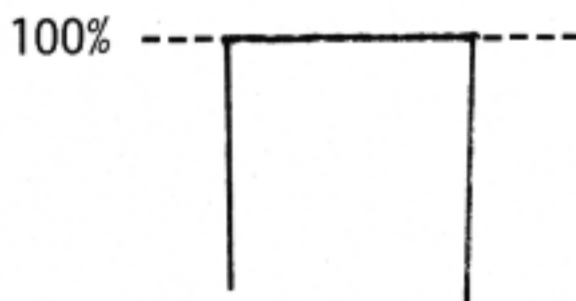


Figure 1A: Square Wave Input.

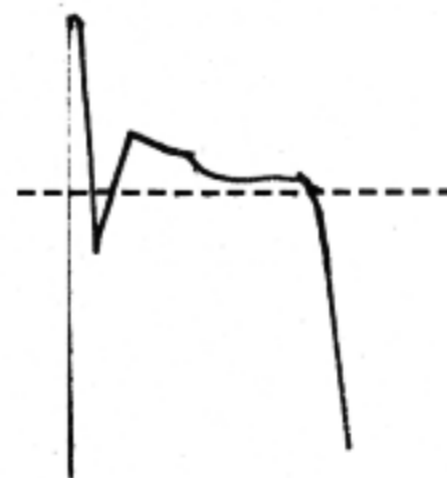


Figure 1B: Transmitter Output. Overshoot is wasted signal.

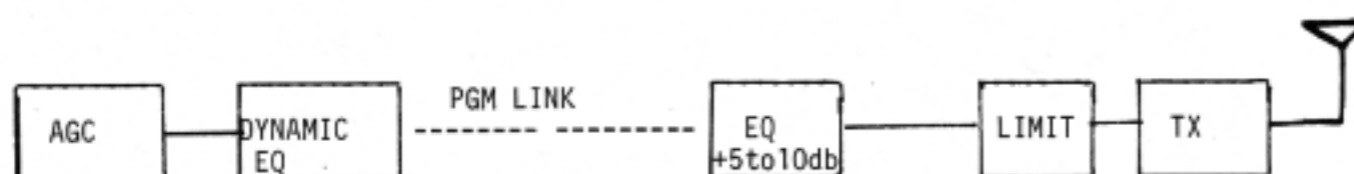


FIGURE THREE



Rob Meuser is chief engineer at Radio Station CKOC in Hamilton, Ontario.

# Thirty Years in Cable TV

Ken Easton is well-known in Canada's cable television industry as a consulting engineer. His recent book, *Thirty Years in Cable TV: Reminiscences of a Pioneer*, provides an informative history of the development of cable TV as Canada became one of the world's most-cabled countries.

The first half of the book reviews early developments, not only in Canada, but also in the United Kingdom and the United States. In recounting U.K. developments, Easton tells us that by 1948, nearly 900,000 homes there received radio via cable (or "relay") systems which had operated as early as the 1920s. The author himself began in communications with the British Post Office in 1933, moving to Rediffusion—and the cable TV industry—in 1947. He came to Canada in 1953 to join Rediffusion Inc. as chief engineer of its Montreal system, and subsequently was a founder of the Canadian Cable Television Association in 1957, serving as its secretary for a number of years.

The beginnings of cable TV in the United States are reminiscent of the early days of radio, when stations were often put on the air by dealers who wanted to sell receivers. In Pennsylvania in 1948, John Walson, who had an interest in an appliance store handling TV sets, developed a primitive system to bring in signals from Philadelphia. Another prominent name from the same area and era is that of Milton Jerrold Shapp, a small equipment manufacturer operating under the name Jerrold Electronics Corporation. His products were later distributed through Philco Corporation and Jerrold remains today as a major supplier of cable TV equipment. Also noteworthy are the efforts of Ed Parsons in Astoria, Oregon, who discovered that the mountain peaks which often block signals can also "bend" them, resulting in "high spots" which make good reception possible.

As Easton rightly observes, cable TV in the United States was for many years a small town service. Today, sat-

ellite reception and pay-TV are spurring the rapid growth of sophisticated metropolitan systems.

Turning to Canada, the book describes early developments by Rediffusion to establish first audio, then video, cable service in Montreal. Arriving here in 1953, Easton found himself in the midst of the myriad technical and political problems that surrounded this pioneer effort. Meanwhile, however, other entrepreneurs were discovering greener fields: Ed Jarman in London, Ontario; Fred Metcalf and Jake Milligan in Guelph; Ed Polanski of Thorhild, Alberta; Syd Welsh, Bud Shepard and Garth Pither in Vancouver, and also George Chandler, who owned CJOR.

A chapter on long-distance reception reveals more anecdotes about such pioneers as Stan Hosken in North Bay and Ben Torchinsky, Sruki Switzer and Abe Berday in southern Saskatchewan, and the difficulties they overcame to bring television signals to eagerly-awaiting Canadian viewers. Also

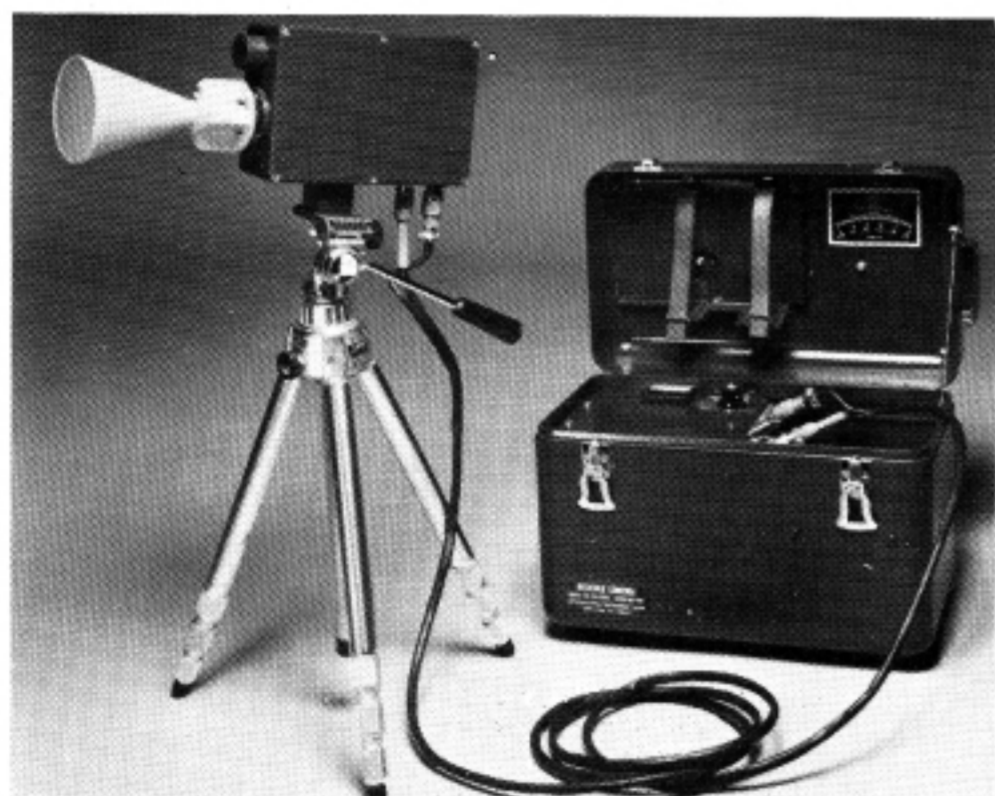
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covered are trade associations—the origins of NCTA and CCTA—and the growth of government regulation with the Board of Broadcast Governors taking shape in 1958, then the CRTC in 1968. It was in 1968 that non-Canadian ownership in broadcast licences was limited to 20%—a factor that greatly influenced the development of Canada's cable companies.

The final chapters of the book deal with "Pay Television—And After" and

centre on the activities of Famous Players and its Telemeter field trial in Etobicoke (Toronto). Ken Easton was with Famous Players from 1960 to 1970, before entering private practice as a cable television consultant.

*Thirty Years in Cable TV* is a personal account of many of the developments affecting the cable industry from its birth to maturity. Much of the detail reflects the author's interest in cable technology as an engineering execu-

tive with Rediffusion and Famous Players. For both technical and non-technical readers, the book is a valuable contribution to the history of those enterprising individuals who had the foresight to forge a new industry. Canada—perhaps more than anywhere else—is where it happened.

(207 pages, \$12.95 prepaid from Pioneer Publications, 1608 Truscott Drive, Mississauga, Ont. L5J 1Z4.)



## calendar

**Nov. 18-23:**  
**Houston Int'l. Film Festival**  
Greenway Plaza, Houston, Texas

**Dec. 3-5:**  
**RTNDA—News Directors**  
Diplomat Hotel, Hollywood, Fla.

**Dec. 10-13:**  
**Western Cable Show**  
Disneyland Hotel, Anaheim, CA.

**1981**  
**Jan. 14-19:**  
**NAVA—National Audio-Visual**  
Dallas, Texas

**Jan. 25-28:**  
**National Religious Broadcasters**  
Sheraton Hotel, Washington, D.C.

**Feb. 6-7:**  
**SMPTE Television Conference**  
St. Francis Hotel, San Francisco

**March 1-3:**  
**Can Pro '81**  
Empress Hotel, Victoria, B.C.

**March 17-20:**  
**AES—Audio Engineering Society**  
Congress Centre, Hamburg, Germany

**April 5-7:**  
**CAB—Canadian Assoc. Broadcasters**  
Hilton Hotel, Quebec City

**April 12-15:**  
**NAB—Nat'l. Assoc. of Broadcasters**  
Las Vegas, Nevada

**May 5-7:**  
**WABE—Western Broadcast Engineers**  
Bayshore Inn, Vancouver, B.C.

**May 11-14:**  
**CCTA—Cdn. Cable TV Assoc.**  
Hilton Hotel, Quebec City

**May 20-22:**  
**Videotex '81**  
Toronto, Ont.

**May 24-27:**  
**WAB—Western Assoc. Broadcasters**  
Jasper Lodge, Jasper, Alta.

**May 29-June 3:**  
**NCTA—Nat'l. Cable TV Assoc.**  
Convention Center, Los Angeles, CA.

**May 30-June 4:**  
**International TV Symposium**  
Montreux, Switzerland

**June 10-14:**  
**Broadcast Promotion Assoc.**  
Waldorf-Astoria, New York

**June 17-20:**  
**RTNDA Canada—News Directors**  
Edmonton Plaza, Edmonton, Alta.



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## HEARINGS

### HULL—OCTOBER 21

Among applications scheduled for a public hearing held on October 21 at the Hull Conference Center were the following:

- CKCW Moncton, N.B., for a power increase from 10 to 25 kw, with a change of transmitter site.
- Club Social La Grande, Montreal, for nine FM and two TV rebroadcasters to serve James Bay hydro camps in northern Quebec.
- CBC, for TV rebroadcasters at Inverness, N.S. (730 watts on channel 8, ex-CBIT Sydney), and Elmira, P.E.I. (105 watts on ch. 4, ex-CBCT Charlotte-town); also at Hopedale, Nfld. (8.9 watts, satellite feed). Other applicants seek TV rebroadcasters in Newfoundland at Harbour Breton (25 w., ex-CJOX-TV) and St. Shotts (40 w., ex-CBNT).
- CJWN-TV Corner Brook, Nfld., for a power increase from 860 to 4150 watts.
- Antigonish (N.S.) Cablevision Ltd., for transfer (100%) to Central Cable TV Ltd.

### MONCTON—NOV. 5

A hearing scheduled for the Hotel Beausejour, Moncton, N.B., commencing November 5, 1980, includes the following applications:

- CBC, for a TV rebroadcaster at Labrador City, Nfld., 59 watts on ch. 6, ex-CBMT Montreal.
- CJCB-FM Sydney, N.S., for format change from easy listening to country.
- Radio CKBM Inc. (Montmagny, Que.), for transfer (100%) from L. Paquin to Guy Simard (55%), Pierrette Roy, Claude Martel and Boutique Le Musicologue Inc.
- CKR-TV Ltée (Rivière-du-Loup, Que.), for transfer (53%) from G. P. Simon to Télé-Inter Rives Ltée.
- Le Câble de Rivière-du-Loup Ltée, for transfer (77%) to Simgesco Ltée.

### VANCOUVER—NOV. 25

Applications for new FM radio stations in British Columbia are the chief items of interest on the agenda of the CRTC hearing scheduled for Vancouver's Hyatt Regency Hotel on November 25, 1980. They include:

- Great Valleys Radio Ltd., for Penticton, 10,600 watts on 100.7 MHz, with rebroadcasters at Keremeos (46 w., 99.9) and Princeton (73 w., 105.5).
- Nick Frost, representing a company to be incorporated, for Kelowna, 10,500

watts on 101.5.

- Skeena Broadcasters Ltd., for Terrace, 50 watts on 92.1.
- CBC, for FM rebroadcasters:
- NL Broadcasting, for an AM rebroadcaster of CHNL Kamloops at Ashcroft, 1000 watts day/500 watts night, on 1340 kHz.
- Columbia Kootenay Broadcasting, to acquire CKEK Cranbrook and CFEK Fernie from EK Radio Ltd., and CJAT Trail from Kootenay Broadcasting.
- Urban Cablevision, Langford and Sooke, B.C., for transfer (100%) from G.M. Davis and J. Laternus to SOTV Holdings Ltd.

## DECISIONS

### AM RADIO

- Rebroadcaster of CJDC Dawson Creek licensed at Chetwynd, B.C. (1000 watts day/250 watts night, on 1450 kHz).
- Increase in daytime power from 10 to 50 kw approved for CHNO Sudbury, Ont.
- Transfer of CJLA Lachute, Que., approved (80-541).
- Affiliation of CHLC Hauterive and CFRP Forestville, Que., with Radiomutuel network approved.
- Licences surrendered: CBNI Cow Head and CBND Flowers Cove, Nfld.; replaced by CBYM-FM and CBYP-FM.

### FM RADIO

#### ROGERS WINS SARNIA FM, PLANS RECORDING STUDIO

A new commercial FM station, the city's first, has been licensed for Sarnia, Ontario. It will be owned by Rogers Radio Broadcasting Ltd., (CKJD), and will operate with 26 kw on 99.9 MHz. A competing application by Sarnia Broadcasters Ltd. (CHOK) was denied.

Programming, geared to an adult audience, is designed to offer an alternative to existing FM stations received in the area, with emphasis on local news and information. To help develop local talent and community access programming, Rogers will provide a professional recording studio in downtown Sarnia. The station will also allocate \$6,000 a year to develop talent, and will broadcast 10 one-hour live concerts during the first year of operation. (80-547).

### 10 MORE CBC FM's

A CBC rebroadcaster has been approved at Liverpool, N.S., 2400 watts on 97.1 MHz, ex-CBH Halifax. Nine rebroadcasters have been approved for British Columbia, all ex-CBU Vancouver.

### MONTREAL FM's RAPPED

Three Montreal FM stations have been given short-term renewals (18 months), following a review of radio operations in the city by the CRTC.

The stations under fire are CITE-FM (Télémedia), CKMF-FM (Civitas' Supravox Corp.) and CHOM-FM (Geoff Sterling's Maisonneuve Broadcasting).

CITE was told it has not achieved the objectives of the FM policy with "virtually no programming in the foreground format", has not met the commitments made in its original Promise of Performance, nor complied with its latest renewal (April, 1979). The CRTC states that the integrity of the licensing process has been challenged by Télémedia, and that unless CITE lives up to its original Promise of Performance, the licence will not be renewed.

Similar complaints were directed to CKMF, which has "deviated substantially" from the musical format for which it was licensed.

The case of CHOM is complicated by the station's bid to use up to four hours of French intermittently throughout the week. This was denied, however the CRTC said it had no objection in principle to such bilingual broadcasting and would consider a proposal for better-defined blocks in French, but no commercials. In response to CHOM's bid for unlimited repeats of musical selections and increased use of hits, the CRTC ruled that hits must be less than 50% of all music, and each may be repeated only 18 times a week.

## TELEVISION

### ALBERTA INPUT NEEDED

Alberta affiliates CFCN-TV Calgary and CFRN-TV Edmonton have been urged by the CRTC to develop quality productions for national broadcast on the CTV network.

The two stations have established a joint production fund, with each contributing \$50,000. CFCN-TV has also increased its local programming budget by 35% and plans to spend \$1.2 million for new equipment.

However, the CRTC says it expects the stations to allocate further resources to production, including pilots of network calibre, to reflect "the changing social and cultural environment of Alberta".

- Rebroadcasters have been approved for CHAN-TV Vancouver at Wilson Creek, B.C. (8.4 kw, ch. 23), and CHEK-TV Victoria at Campbell River, B.C. (1.2 kw, ch. 11).
- CHOT-TV Hull, for transfer from Télé-Outaouais Inc. to parent company, Radio-Nord Inc. Previous plan that 49% of station be locally owned will not be implemented, however four new directors from area will be added to Radio-Nord board.
- CIMT-TV-2 Trois-Pistoles, Que., for channel change from 8 to 13.
- CKNX-TV Wingham, Ont., for power increase from 90 to 150 kw.
- CFAC-TV-7 Lethbridge, Alta., for power increase from 96.1 to 167 kw, with change of transmitter site.
- CKPG-TV Prince George, B.C., for power increase from 778 to 4,600 watts, with change of tx site; rebroadcasters CKPG-TV-4 Mackenzie and CKCQ-TV-1 Quesnel will also change site, decreasing power from 8.9 to 8.4 watts.

## CABLE TELEVISION

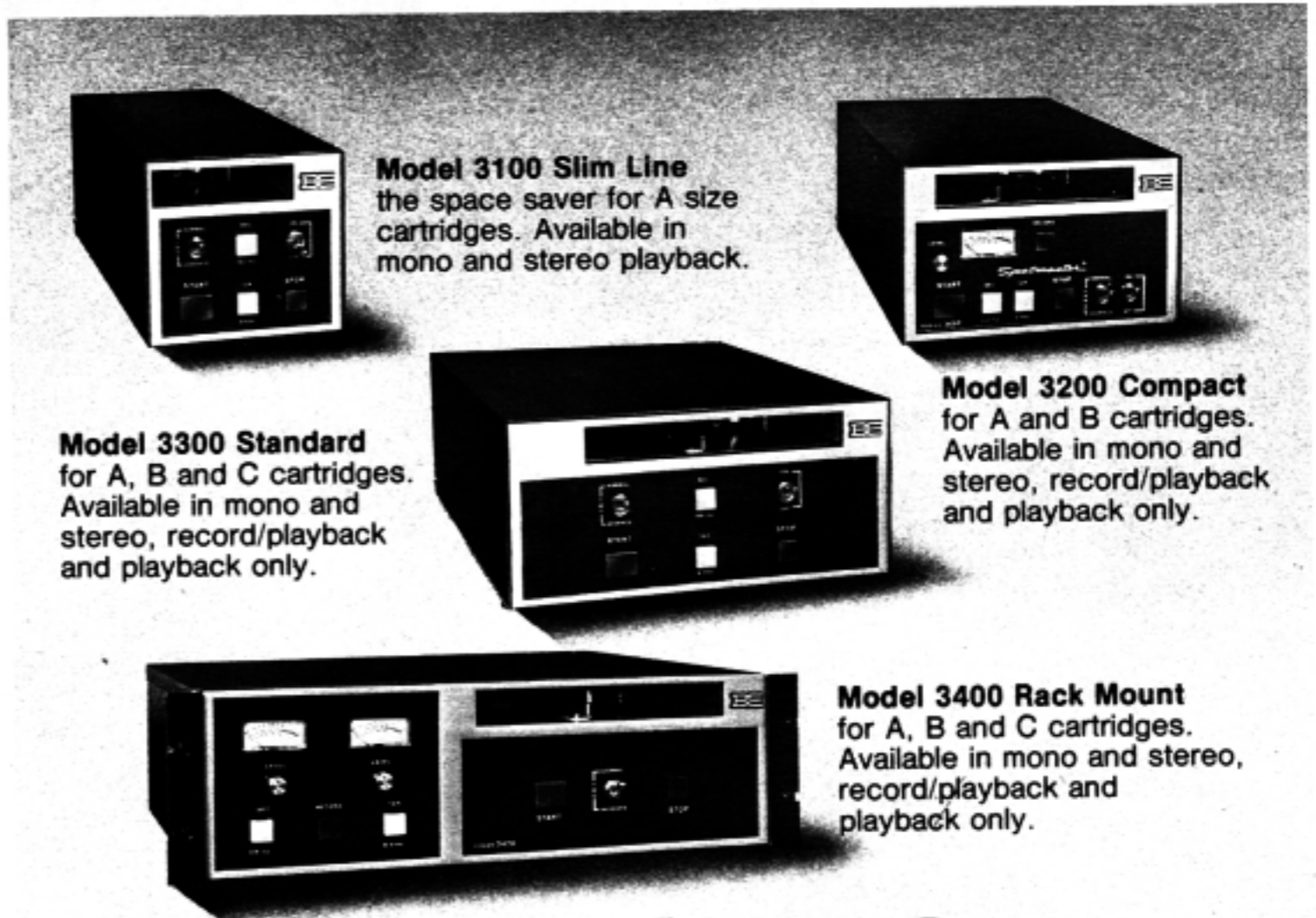
### PRAIRIE CO-AX BIDS FOR 60 SASK. TOWNS

Prairie Co-Ax TV Ltd. of Moose Jaw has applied to serve 60 communities in southern Saskatchewan. General manager Jim Connolly says the plan would cost \$5.5 million and cover a population of 150,000, including 13 areas "that other applicants have overlooked". Announcement of a public hearing is expected from the CRTC in the near future.

### NEW SYSTEMS OK'd

The following new cable TV systems have been licensed:

- Nanticoke, Ont.—Lindsay CATV System Ltd.
- Whistler, B.C.—Whistler Cable Television Ltd. Applicant proposed an initial budget of \$25,000 for community programming, increasing to \$65,000 in the fifth year of operation. Facilities will include studio and mobile facilities, color camera. (Competing application by Whistler Valley Community TV Ltd. denied.)
- Salmon Arm, Enderby and Armstrong, B.C.—Vercom Cable Services Ltd. Three proposed systems to be interconnected with Vernon system by feed forward trunk line, which will provide all services now available to Vernon. Vercom will also establish a studio in Salmon Arm, 2-camera mo-



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bile unit with record/edit facilities and ENG equipment. (Competing applications by D. J. Marr and Shuswap Cable Ltd. denied).

### Other cable TV decisions:

- Télécâble Vidéotron Ltée—licensed to serve Candiac area, near Montreal, previously served by National Cablevision.
- Amalgamation of Transvision Drummond Inc., Drummondville, Que., with Cablestrie Inc. approved.
- Carriage of programming from three TV networks in France approved for 13 more Quebec cable systems. Delivery through SETTE will be via Anik B satellite 14/12 GHz channel leased by

DOC for experimental use.

- Northumberland Cable TV, Cobourg, Ont., renewed for two years; to upgrade technical facilities.
- Grimsby (Ont.) Cable TV, to provide FM radio service and commence community programming "without further delay".
- Canadian Cablesystems (Metro) Ltd., Toronto, licensed to provide Reuters frame grabbing service for information retrieval.
- Superior Communications Systems, Athabasca, Alta., renewed for two years; to complete technical upgrading of system.

