

Sandy Day Named BT Technical Editor

Broadcast Technology is pleased to congratulate itself on the appointment of A.G. 'Sandy' Day, P. Eng., as Technical Editor.

Sandy's *Technitopics* column has long been an important and valued feature of this magazine, and we are delighted that he has accepted this additional responsibility with BT. A well-known and highly regarded member of Canada's broadcast engineering fraternity, Sandy is uniquely qualified for the position—through his many years as chief engineer with major broadcast operations, as a consultant, and as vice-president of engineering services for the Canadian Association of Broadcasters.

Sandy will be joining the BT team in attending NAB in Dallas, April 12-16, and looks forward to seeing many of his readers-friends-associates at that time; he may also be contacted at his Ottawa address, as given at the end of each *Technitopics* column.

CRTC Deadlines Need Stretching

The number of available FM channels is rapidly shrinking—so it's disconcerting to see the short time span allowed by the CRTC for new players to participate in hearings for the few remaining frequencies. Typically, a call for applications allows just one month to file a letter of intent, and a second month in which to file a formal application. Given the complexity of the CRTC regulations and processes, this timing can only discourage new players from entering the game. The result can only continue the trend of more stations in the hands of fewer owners.

Smoking: A Matter for Education—and Action!

An interesting item in the Broadcast Education section of this issue reports that Media Arts students at Sheridan College in Oakville, Ontario, have produced an anti-smoking video for use in high schools. Educators and educational organizations should be leaders in the campaign to make young people aware of the facts surrounding this dangerous, deadly addiction; it's especially encouraging to see students themselves taking a leadership role.

There is, of course, a mountain of evidence accumulated in recent years about the hazards of the habit. For example: according to Health & Welfare Canada, deaths *directly related to smoking* numbered between 27,500-32,000 in 1983 alone; and, despite the substantial tax revenues from tobacco, the country still loses \$2.7 billion a year due to health care, lost productivity, fires, and other costs of smoking. Glancing through a U.S. magazine recently, I noted these warnings in cigarette ads from the Surgeon General: • Cigarette Smoke Contains Carbon Monoxide • Smoking Causes Lung Cancer, Heart Disease, Emphysema, and May Complicate Pregnancy • Smoking by Pregnant Women May Result in Fetal Injury, Premature Birth, and Low Birth Weight. I was reminded of a comment by a caller to a talk show on CKO Radio: *'If pet food had that kind of warning on it, would you buy it for your cat or dog?'*

Clean air in the workplace is a current issue, and of course there is no right to inflict the discomfort of smoke (the headaches, difficulty in breathing, stinging eyes, etc.), much less the potential for serious illness and death, on those nearby. (This applies in any confined situation: restaurants, cars, line-ups, meetings,

and yes—especially in the home.) Many of our readers work in places that have smoke-sensitive electronic equipment; that in itself is good cause to restrict smoking to specific areas. How much more reason is there to protect smoke-sensitive *human* equipment!

Along with education and awareness, there must be *action*. It's time for Canada's federal and provincial politicians to act to ensure clean air in public buildings and in the workplace. We recommend that those who want the facts on this issue contact the Non-Smokers Rights Association at 344 Bloor Street West, Suite 308, Toronto, Ontario M5S 1W9, (416) 928-2900.

Last but not least—a word of appreciation to the great majority of smokers who respect the health and well-being of those around them and exercise courtesy and restraint.

Saskatchewan Shenanigans...

Conservatives... They're the folks who say they believe in the free enterprise system, aren't they? Well, sometimes... There are exceptions, such as Petro-Can... and now Saskatchewan TV...

Last fall the CRTC approved SaskWest's application for new television stations in Regina and Saskatoon in what appeared to be a pretty straightforward decision. Enter politics. The federal cabinet told the CRTC to hold a new hearing and 'reconsider' whether the markets are large enough to support third stations.

Cabinet interference in the autonomy of the CRTC is rare—as indeed it should be. Why did it happen in this case?

CKCK-TV Regina and CFQC-TV Saskatoon have each been around for more than 30 years—the only private TV stations in their respective markets. Both are described by the CRTC as 'among the most profitable' in Canada. In 1984, CK-TV had pretax profits of \$4.7 million—38% of revenues. But CK-TV's owner, Harvard Developments, says it's worried: 'Harvard's corporate structure is such that any major downturn in the earnings capacity of the broadcasting division would place the entire corporate group in financial jeopardy.' That certainly doesn't sound like the flush Harvard Developments that bought CK-TV a few years ago! Is the company now about to go down the drain without the profits from CK-TV? The wider question is: to what extent are licensees justified in taking large profits out of their broadcasting operations? What is the obligation to put such profits into production of more and better programs?

This believer in the free enterprise system suspects that what's good for the Saskatchewan viewer might also be good for the fat cats of Canada's TV broadcasting industry.

And a Final Crack at the Federal Bureaucracy...

Two interesting points made by Pierre Juneau—still vigorously presiding over the Canadian Broadcasting Corporation:

- While the CBC was reducing staff by 1,500 out of a total of 12,000 (12.5%), the feds were reducing staff by 3,130 out of a total of 225,000 (1.4%). A classic case of 'do as I say, not as I do'...
- The CBC cannot borrow money for any purpose. Juneau laments this makes it difficult to operate in today's environment. But imagine how wealthy this country (now almost bankrupt, according to Brian Mulroney) could be, if the same rule had applied to *all* government operations over the past 30 years!

—Doug Loney

MOST PAGES: 104

*At 104 pages, this is Broadcast Technology's
LARGEST REGULAR ISSUE.*

(Only our Annual Buyers' Guide has been larger.)

PRESS RUN: 15,000

*This is also our most widely circulated issue:
DOUBLE DISTRIBUTION*

(for NAB Convention and additional promotion.)

stations in the news

BCTV PAVILION AT EXPO 86

British Columbia Television is proceeding with its plans for a 14,000 sq. ft. pavilion at Expo 86 (see BT, Jan/Feb/86, page 10).

The \$5 million pavilion will include complete newsroom, studio, editing and control room facilities, accommodating as many as 70 staff members at a time. All BCTV news will originate from the Expo studio throughout the fair (May 2 to October 13), as well as broadcasts for the CTV network and the B.C. Lottery Corp.—in all, an estimated 370 hours of live programming. News gathering operations will be in full view of visitors, who will be given guided tours of the pavilion.

Expo co-incides with the 25th anniversary of BCTV, and president Don Smith describes the pavilion as BCTV's largest undertaking in its 25-year history.

CBC IS EXPO HOST BROADCASTER

The role of broadcast co-ordinator for Expo 86 appears to have gone to the Canadian Broadcasting Corporation.

Reports indicate that both BCTV and CBC applied for the job in 1983, and that BCTV, with its high profile involvement in the fair, expected to be at least part of a consortium to co-ordinate broadcasting. However, in January, CBC moved into the Expo site and issued a press release that Transport minister Don Mazankowski had 'announced that the CBC had accepted his invitation to act as broadcast co-ordinator for Expo 86.'

David Knapp is in charge of the CBC group—which will provide live feeds of major events to both domestic and foreign broadcasters, and co-ordinate the requirements of foreign broadcasters. Knapp, who is with the English TV network, headed similar arrangements for the 1984 papal visit and 1981 economic summit.

The Broadcast Co-ordinator's offices are located in the Expo 86 Media Centre, 2nd floor, 770 Pacific Blvd. (west building), telephone (604) 668-2400 or 668-6500.

3EME RESEAU TV QUEBECOIS QUATRE SAISONS TAKES SHAPE

Applications for seven rebroadcasters of CFJP-TV were considered at a January CRTC hearing in Montréal. French-language CFJP-TV is expected to be on-air by September 1st, and the licensee, CFCF Inc., has requested approval for a rebroadcaster in Québec City, 23.7 kw on channel 2. Other applications:

- Trois-Rivieres—Télévision St-Maurice Inc., for 20 kw on channel 20;
- Sherbrooke—Télévision St-Francois Inc., for 125.9 kw on channel 30;
- Hull—Radio Nord Inc., 16.2 kw, ch. 14;

- Rouyn—Radio Nord Inc., 81 kw, ch. 20;
- Val d'Or—Radio Nord, 102 kw, ch. 25;
- Jonquiere—Radio Saguenay Ltée, for 24.55 kw on channel 4.

The proposed stations would also provide some local programming, including local advertising.

BATON WOULD BUY CK-TV REGINA, ALSO YORKTON TV GROUP

Subject to CRTC approval, Baton Broadcasting Inc., Toronto, will make two major

purchases of television stations in Saskatchewan—giving it domination of the market and leaving the province with only one independent, CJFB-TV Swift Current.

Baton, which already owns CFQC-TV Saskatoon, has agreed to buy 90% of CKCK-TV Regina for \$45 million, from Harvard Developments Ltd. Harvard, in turn, would purchase a 10% interest in CFQC-TV for \$5 million, and would participate in the management of both stations. (Harvard also owns radio stations



FREEZE FRAME BROADCASTING

Colorado Video offers three unique solutions to the effective, low cost delivery of visual information:

- **Subcarrier transmission** of "still-frame" color images in 8 seconds over a 10 kHz channel. Use FM radio, television or satellite.
- **Vertical interval multiplexing** in a conventional television signal.
- **Time division multiplexing** of single frames into a normal TV program (or mix four separate programs onto a single channel with slightly reduced motion reproduction).

Selective addressing may be used to allow special routing to individual locations. Computer image storage and retrieval provides exceptional programming convenience.

Call us for more information.

See us at NAB,
Booth 3447

Colorado Video Inc.

10 Matlock Avenue Mississauga, Ontario L5N 1G1
416-826-6540

stations in the news

CKRM/CFMQ-FM Regina.)

The CKCK-TV deal came only two weeks after Baton agreed to buy Yorkton Television, owner of CKOS-TV (CBC) and CICC-TV (CTV) in Yorkton and CKBI-TV (CBC) in Prince Albert.

Joe Garwood, vp/managing director of Baton, says the purchases will create a large unit 'capable of taking on new challenges.' One of those challenges is obviously the recent granting of licences in Regina and Saskatoon to SaskWest Television Inc., a subsidiary of CanWest Broadcasting, owners of CKND-TV Winnipeg. However, that decision could be overturned by a new CRTC hearing (held Feb. 11); the review was the result of an order by the federal cabinet, in a rare move overruling the CRTC's independence.

CanWest president Don Brinton is highly critical of the delays met by the SaskWest plan, first presented to the CRTC in March of 1984. He says the value of \$50 million each placed on CKCK-TV and CFQC-TV by the Baton deal is 'exorbitant' and 'confirms their expectation of long-term profitability'—even with new competition in each city. Financial statements filed by Harvard reveal that CKCK-TV had pretax profits in 1983 of \$3.4 million on revenues of \$10.4 million, and in 1984 of \$4.7 million on revenues of \$12.4 million. The CRTC has described 'CK and 'QC as 'among the most pro-

fitable' television stations in Canada.

The Saskatchewan Federation of Labor also entered the fray, opposing the Baton purchases for two reasons: concentration of ownership, and control of so much of the province's TV 'by a large corporate entity based in Toronto.'

CBC's 'VISION OF THE FUTURE'

The Canadian Broadcasting Corporation, in a presentation to the federal Task Force on Broadcasting Policy, has proposed a 'multi-channel' strategy to strengthen the CBC's future effectiveness. Highlights:

- CBET Windsor, ON, would become a 'superstation' with a potential audience of 10 million viewers—half in the U.S., via cable TV—and potential revenues of \$100 million from advertising. Other networks in Canada, as well as the National Film Board, would be invited to participate.
- All U.S. programs on the English TV network would be discontinued by Sept/87, except for 'high quality' programs.
- CBC-TV would increase Canadian drama to at least 10 hours a week.
- At least 50% of CBC-TV production would be by independent producers.
- A second TV channel, CBC-2, would be carried by cable systems, on the basic service. (This revives a CBC proposal previously rejected by the CRTC.)

• CBC's AM and FM stereo networks would be called Radio 1 and Radio 2, and have more Canadian music content.

- Support for cable 'specialty channels,' (e.g., news, children's) and increased participation in The Sports Network (TSN).
- A 5-year plan for financing the CBC.

This vision of the future, however, may exclude some of CBC-TV's 26 English-language affiliates. Bill Yuill, president of two Alberta affiliates, CHAT-TV and CKRD-TV, questions that the plan would find a place 'in the real market.' He said if the CBC cuts all U.S. programming, his stations would probably disaffiliate. CBC's Ian Ritchie said he can understand the concern, but 'we are hoping we can bring all of (the affiliates) along.'

CRTC HEARS POWER BID FOR CFTM

A CRTC hearing in Montréal, March 17, will consider the purchase by Power Corp. of Télé-Métropole (See BT, Nov/Dec/85, page 9.) Télé-Métropole owns CFTM-TV Montréal, CJPM-TV Chicoutimi, and 33.5% of Pathonic Communications, licensee of CHEM-TV Trois Rivières and CHLT-TV Sherbrooke. Power would buy 99.6% of Class A voting shares and 38% of Class B shares at a reported price of \$97.8 million. Cross-ownership will be a major issue, as Power owns a dozen newspapers in Québec, as well as CHEF Granby. →

VIDEO RENTALS

BROADCAST

- BVW-3A
- BVW-10
- BVW-20
- BVW-40
- TIMECODE
- PHASER
- BVU-850
- BVU-870
- BVE-800
- SE-30
- BVT-800
- TRIPOD

INDUSTRIAL

- DXC-1820KA
- DXC-M3A
- VO-6800
- VO-5850
- VO-5800
- VP-5000
- VO-5600
- RM-440
- MONITORS 5" to 27"
- LIGHTING
- VIDEO PROJECTORS
- MICROPHONES



CITÉ ÉLECTRONIQUE VIDÉO INC.
6877 JARRY Est, ST-LÉONARD, QUÉBEC

(514) 326-8701

J-MAR ELECTRONICS LTD.



Elizabeth Woods, vice president and general manager of J-Mar Electronics Ltd., is extremely pleased to announce the appointment of Bruce Dingwall as Sales Engineer—Broadcast.

Bruce is a Certified Engineering Technologist who brings with him a practical background in broadcast studio and transmitter facilities, and digital concepts and implementation. Most recently with CFRB/CKFM, he has also designed a number of remote control to transmitter plant interfaces.

Bruce will specialize in systems design, and be available to discuss equipment requirements.

stations in the news

MARITIME TV APPLICATIONS

The CRTC has called for applications for television stations in Halifax, Moncton, Saint John and Fredericton. The deadline was March 7th. It stated that applications had been received for these cities, the Fredericton and Moncton stations being rebroadcasters only. A month before the call was issued by the CRTC, a Broadcast News report said that New Brunswick Broadcasting (CHSJ-TV Saint John), had applied for TV licences for Halifax, Fredericton and Moncton.

CFCF-TV CELEBRATES 25 YEARS

A feature story in the Montreal *Gazette* marked the 25th anniversary of CFCF-TV, recalling that the station went on the air at 5:45 pm, Friday, January 20, 1961, the day John F. Kennedy was inaugurated at president of the United States. 'CF' was forced to set up temporary studios in the Avon Theatre on Laurier Avenue—its new building on Ogilvy was completed only in May of 1961. The station was then owned by Canadian Marconi, who spent \$4.5 million to put the TV station on the air. (Currently, \$12 million is being spent to expand the facilities.)

Two dozen 25-year employees remain with CFCF-TV, whose 'originals' included:

- Jimmy Tapp, the first personality seen

on channel 12—he recently retired from CFQR-FM and is recuperating from open-heart surgery;

- Bill Merrill—now vp of programming;
- Sportscaster Brian McFarlane—now sports director at CFTO-TV Toronto;
- Weather forecaster Marge Anthony—now vp/promotion for the CTV network;
- Sportscaster Dick Irvin—still at 'CF';
- Bob Findlay—who came as a technician from CBMT and remains in charge of technical maintenance. Findlay recalls 'there was nice new equipment here, but the master control room had no walls. We used those torpedo heaters you see on the sidelines at football games and worked with our overcoats on.'

(Editor's note: Our thanks to Bill Holroyd for forwarding this information. BT will be carrying a feature article on the new facilities at CFCF in the near future.)

TELEMEDIA TO BUY CKSO/CIGM-FM

Telemedia Communications will purchase two more northern Ontario radio stations, subject to CRTC approval. They are pioneer CKSO, established in 1935, and CIGL-FM, both locally-owned by United Broadcasting of Sudbury. Telemedia, which already owned AM-FM combos in North Bay in Timmins, bought CFYN and CHAS-FM Sault Ste. Marie last year. Peter Viner, Ontario group president, says

Telemedia will establish a regional head office in Sudbury and will likely increase staff from the present level of 43 people.

RADIO APPLICATIONS CALLED

The CRTC has called for applications for radio stations in the following locations (deadline for filing shown in brackets):

- Montreal—FM (March 5)
- Ottawa-Hull—FM (March 24)
- Chicoutimi-Chambord, PQ—FM (Feb. 19)
- Joliette, PQ—FM (Feb. 10)
- St-Hyacinthe, PQ—FM (Feb. 10)
- Moncton, NB—application received for English-language AM (Feb. 24)
- Saint John-Fredericton, NB—application received for English FM in Saint John (deadline for new applications March 20).

TWO MORE C-FAX 'ORIGINALS'

Promotion is the name of the game at Mel Cooper's C-FAX, and here are two more original ideas that wowed 'em in Victoria:

- After a \$10 million Loto 649 draw, C-FAX offered a 'Loser's Loto' for all the people who *didn't* win. Numbers were computer-generated, six every hour, and listeners with two correct numbers could win \$10.70; three, \$107; four, \$1070. PD Terry Spence says the game produced 'the most incredible response of anything we've ever done on C-FAX,' with every telephone line jammed with calls whenever numbers were aired. Cost: six \$107 winners plus seven \$10.70 winners.
- Another promotion was a co-operative venture with B.C. Transit: the 3rd annual 'Bowman Bus' tour had morning man Bob Bowman doing his show live from a city bus. It was put on a special route to cover as much territory as possible during the 6 to 10 am period, and passengers were greeted by a lady in a tuxedo and a Dixieland band. Transit ridership was up 30% during the 3-day promotion and much of the credit was given to the 'Bowman Bus.'

LONDON, CHATHAM FMs GET OK

Two new FM stations have been licensed by the CRTC to serve southwest Ontario.

- London Broadcasters (CKSL) will operate on 103.1 MHz with 9,400 watts. The format will be 'Adult FM'—a blend of easy listening and soft rock aimed at the 35 to 59 age group. Local musical talent will be encouraged to the tune of \$28,000 a year, plus \$45,000 in new recording equipment over the next five years.
- Bea-Ver Communications Inc. won its bid for a Chatham FM, 35.4 kw on 95.1. A competing application by Key Radio, the Maclean-Hunter subsidiary that owns CFCO, was denied. Local ownership was a 'key' issue in the decision favoring Beaver's bid for an 'easy listening' format with strong local news coverage. The 95.1 frequency will become available with the move of CBC's local rebroadcaster to 88.1.

Measure Up With Coaxial Dynamics High-Powered Precision Directional Wattmeters

Models 81100A/81300A R.F. directional wattmeters, measure R.F. power in 1 5/8" and 3 1/8" 50 ohm coaxial transmission lines respectively. In these models, the line sections, single or dual socket, are a separate unit so the wattmeters can be used in remote locations. The packages include a 3-scale precision wattmeter, line section, and 25' cables to carry the rectified signal to the meter.

Also available: Models 81101A and Model 81301A, R.F. wattmeters, with 1 5/8" and 3 1/8" unflanged line sections respectively.

Contact us for your nearest authorized Coaxial Dynamics representative or distributor in our world-wide sales network.



See us at NAB
Booth #2776



**COAXIAL
DYNAMICS,
INC.**

15210 Industrial Parkway
Cleveland, Ohio 44135
216-267-2233 • 1-800-COAXIAL
Telex: 98-0630

Service and Dependability... A Part of Every Product

Circle #151 on Reader Service Card

electronic news gathering

Canada's First Computerized TV Newsroom Core of CFPL-TV London Expansion

by George Clark



In August of 1985, TV-London News moved into its new newsroom. At the same time, TV-London became the first Canadian television news operation to computerize its news programming.

The new main newsroom covers 2500 square feet, with a separate newsroom 912 square feet dedicated to the morning news. Editing and morgue take up an additional 1600 square feet, the camera staff's "ready" room and equipment rooms another 960 square feet, and the new offices and editorial meeting room adjoining the newsroom occupy 576 square feet.

The newsroom has 21 desks for reporters and editors. Equipment includes nine 1/2-inch Betacam and two Ikegami 3/4's for news, with four editing suites adjoining the newsroom.

Computerized Operations

The newsroom computer system consists of two 160 megabyte Newstar processors nine terminals and two printers. BN's high speed wire is fed directly into the computer, which is also used for all assignment functions, producing run sheets, word processing for scripts, electronic prompter and for archiving all newscasts.

While only six terminals are used at the present time for scripting, plans call for another six terminals to be purchased later this year to complete the three-stage computerization program. Because of the cost involved, plans call for sharing one terminal between each two desks in the newsroom.

While the computers have already proven to be tremendously time-saving in assignment functions, wirehandling and archiving, they have also proved invaluable through the specialized functions of "global" and "forward" searches.

- In "global" search, reporters can ask the computer to pull all material relating to any specific subject in its memory. That includes all archived material and anything that has moved on BN in the last 60 hours.

- The "forward" search allows a reporter to alert the computer that a certain subject—for example, acid rain—is being worked on. Should anything in the next few hours or days move on the wire relating to acid rain, it will automatically be stored in the reporter's own electronic mailbox.

Actual training of all staff, design of specific programs for TV-London news



Seen (foreground) are Bill Young (standing), assignment editor, and Corey Goodwin (seated), assistant assignment editor.

CFPL-TV-London recently completed a 20,000 square foot addition to the existing 32-year-old, 30,000 square foot building. The expansion includes a modern news room equipped with a Newstar, a news computer system that collates wire services, archives, displays program run sheets and supplies hard copy print out for scripts and prompter. This is the first installation of such a system in a Canadian television newsroom. Adjacent to the newsroom are new editing suites, audio booths and a news packaging room. Below the news room there is a news crew entrance, complete with a cameraman's equipment/storage room and "ready room".

In addition to the news facilities, the new wing contains production offices, meeting rooms, a board room and spacious new lobby-reception area. The original building has been completely renovated and the two sections totally integrated into one unit.

The next phase of the development is a new studio, with construction to begin latter this year.



General view of spacious London-TV news facility.



Modern 20,000 square foot addition is integrated with existing, newly-renovated 30,000 sq. ft. building. Established in 1953, CFPL-TV is Canada's second-oldest privately-owned television station.

programs and full integration of all news programs to the computer took almost four months. However (without intending to give a free plug to Newstar or Colorgraphics), the computers were so user friendly, the software so adaptable to specific program needs, that the whole exercise took place with amazing little frustration on anyone's part. Colorgraphics was also very helpful in providing skilled trainers, and immediate service when any problems or minor malfunctions occurred.



Technical coordinator Lloyd Gatland and weekend news anchor Julie Sandiland discuss finer points of computerized news operations at CFPL-TV.

The computer has also brought other changes. Gone is the traditional assignment board listing all the day's shooting plans; gone are the assignment sheets with newspaper clippings and wire stories paper clipped to them. Now all the information in the Assignment Editor's future file, plus wire stories, are printed onto the specific assignment sheet. Gone are the reams of script for the teleprompter; gone too are the piles of scripts for the archives, and the noise of a dozen typewriters clacking away as deadlines approach.

Electronic Graphics

At the same time as the Newstar installation in the newsroom, TV-London also purchased the Artstar system for electronic graphics for its art department, with the result that all the art work for the news programs is now electronically generated. Again the speed of operation, the various inputs for images and the ease of operation have proven to be strong points in using the Colorgraphics Artstar.

There are bound to be some glitches popping up in the future that we will have to deal with. Nowever, the fact that U.S. newsrooms were dealing with computers in their "teething stage" may mean many problems have already been solved for Canadian TV newsrooms, as they follow CFPL-TV's lead in entering the age of computerization.


Our thanks to George Clark, news director, and Sue Cryderman, promotion, for this report on the expanded facilities at CFPL-TV London, Ontario.

THE PROFESSIONAL STANDARD

This is it! The award-winning professional standard by which all other video tripods, heads and accessories are judged. Brilliantly engineered with inspired craftsmanship and quality. And, best of all, reasonably priced.

Tripods. Heads. Dollies. Light stands. Clamps. Booms. You name it. But ask for it by name: Manfrotto.

Manfrotto

DISTRIBUTED BY
 **AMPLIS FOTO INC.**
 22 Telson Road
 Markham, Ontario
 L3R 1E5
 (416) 477-4111

Circle #200 on Reader Service Card



THE PHIL STONE REPORT

Dick Drew: The Major-Minor Man

There's a dichotomy about Dick Drew. He operates a radio station in a small market, and a successful syndication house out of a major market.

But the move from small to big—or vice-versa—is not totally unusual in the life of this well-known, multi-talented broadcaster. He came to the big time of the industry from a very small town. It's name is Morinville, Alberta and you can find it if you look around the periphery of Edmonton.

Today Dick is owner/president of CKAY Duncan, BC, a 10,000-watter, and of Drew Marketing Ltd. of Vancouver, which offers such front-rank people as Pierre Berton (110 stations), David Suzuki (65 stations), plus special EXPO '86 programs with Fred Davis and Red Robinson to over 100 stations. Too, there are French-Canadian presentations featuring Jean Marc Chaput and Tex Lecor.

As a youngster Dick left Morinville for Vancouver where he was raised. He moved to Montreal where he went into business and married a French-Canadian girl he met in that city. He always wanted to get into radio because of his brother, nicknamed 'Sky,' who was one of the

original entertainers, along with Jack Jensen, on Bill Rea's *Roundup* program on CKNW New Westminster. "I didn't get into radio right away," said Dick, "I was in the jewelry business in Montreal working for the company that sold out to People's Credit Jewellers. I finally got a chance, through that beloved guy Dick Lewis, to get into radio. Initially, I tried to get into CJAD, where I got some good help from fellows like Al Cauley and Ned Conlon. But there was no way I could get into radio in Montreal. So I went up to CJQC in Quebec City, which was around then as an English-language station, and was given an on-air job. Then I was introduced to that wonderful thing called 'commissions'—15 per cent!—I had never heard of that before. So I was now doing air work and selling."

Dick said that his talents as an announcer were 'very limited,' and "since I was making more money as a salesman, I drifted into that area of the business."

From Quebec City, Dick went back to Vancouver Island "because my wife had never been to BC and I wanted her to meet my family. We were out there for three years when I met Tommy Darling

of CHML Hamilton, who was out there on business; he invited me to come to 'ML as an announcer and salesman. That meant that you were working seven days a week. Tommy was great that way. He knew how to do it. I was to replace a fellow named Victor Copps, a salesman at the station and an alderman at the time. Vic was going to run for mayor the following year and, if elected, would have to leave CHML. Tommy hired me with the understanding that I would then have a full-time job plus Vic's account list. However, if Vic lost the election, I lost my job! I worked real hard on his election campaign—in fact, I like to take credit for getting him elected. That got me the full-time job and I stayed at 'ML for several years. When Ted Rogers bought the old CHIQ in 1967, Norm Marshall and I left 'ML to go with Ted. We changed the call letters to CHAM. Norm went as general manager and I went as sales manager."

About seven months later, Dick was invited back to CHML and stayed there until 1977. For about eight years he was general sales manager and for the final two years station manager, which was when Bill Hall left to join Standard Broadcasting. "Then," said Dick, "Tommy Darling and I agreed to disagree—as is wont to happen in the broadcasting business—and since I always wanted to do something on my own, this pushed me into doing something about it. So I went into the syndication business, handling all of the St. Clair Productions shows, under Drew Marketing Limited; then I spent a short time with Dick Rice at CFRN Edmonton."

CKAY — The Family Station

But what Dick wanted to do most at that time was to own a radio station, and with a partner from Toronto he applied for the Duncan station and got it. Subsequently, he bought out the partner and it is now what he says is called, "The Wong Family Radio Station." That's because he works there, his wife works there and so do his daughter and two sons. "It's like a grocery store run by a Chinese family, as is so often their custom," Dick told us, "and people really do call it 'The Wong Family Radio Station'."

sonotechnique sonotechnique

The Sound of the Future

Distributor of Leading Audio Equipment Manufacturers



Cetec Vega

CHILTON



Dolby

lexicon

Neve

DTARI

SONOSAX

NEOTEK

...and others.

Contact us for counselling and competitive prices

sonotechnique

2585 Bates Rd.
Room 304
Montreal, Quebec
H3S 1A9

Toronto: (416) 597-0840
Montreal: (514) 739-3368

50 Widmer Street
Toronto, Ontario
M5V 2E9

What was it like for Dick to go from such centres as Montreal, Quebec and Vancouver to a town such as Duncan? "Radio is radio," Dick replied, "it is still a human person on one side of the microphone relating to a human person in their car or in their kitchen. Whether it's in New York or in Morinville, radio is still the same thing and I think that's the exciting part of the medium. It's fun in a small community because you get to know the people and they get to know you. But it does put a burden on you, which I never realized until there was a very sensitive news story in Duncan that CKAY had to carry. It involved a family that I knew very well and I agonized on how we were going to carry it, and I said 'Whoa, wait a minute, it has to be carried delicately, sensitively, but it has to be carried.' Whereas in a big city like Toronto or Hamilton, if someone gets killed or shot or there's an embarrassing news story, you carry it because nine times out of ten you don't know the people and there isn't really an emotional involvement in the community. I think that that's the hardest part of adjusting in going from a large community to a small community."

Dick said that he also found that it is more difficult to manage a smaller radio



Dick Drew, president of CKAY Duncan and Drew Marketing, spoke recently at the Board of Trade, Toronto, to the Canadian Information Processing Society, a national organization with 15,000 members; his topic: The Entrepreneurial Spirit is Alive and Well... and Living in Canada!

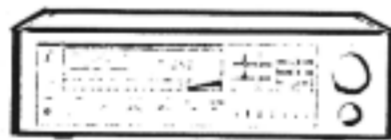
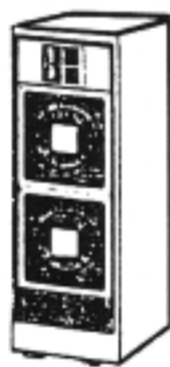
station because, at a larger one, "If you do something that's wrong, "you buy your way out or you hire more people, whereas in a small market where you are counting every nickel and dime, you can't do that. But really a small station is more fun—especially when it's a family affair."

Dick recommends that anyone working in a major market who wants less pressure, "should go back to a small town."

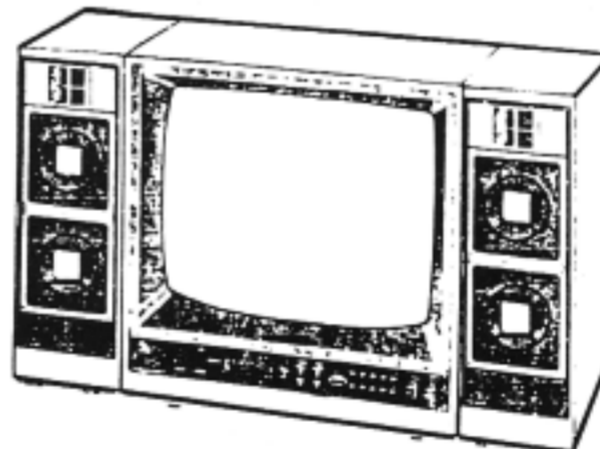
West Coast Syndication

Dick's other big interest is his independent production company, Drew Marketing. "Freestanding is the word for Drew Marketing," said Dick. "When I was previously in syndication, I handled St. Clair and Telemedia productions. Today, I own five shows outright and represent two others which I do not own. Those we own include Pierre Berton's *The Canadian Achievers*, also done in French as *Les Succes Canadiens* with Jean Marc Chaput as host. I produce two versions of the Expo '86 show: one is *Expo '86 Update*, hosted by Fred Davis; another version, *Expo '86 Report*, uses identical scripts and voice clips but a different musical background and production effects, and has Red

HOW WELL IS YOUR AM STATION COMPETING FOR YOUR MARKET'S BROADCAST ADVERTISING DOLLARS? GO MOTOROLA C-QUAM[®] AM STEREO TODAY, AND WE'LL SHOW YOU HOW TO STAY IN THE RACE!



FM STEREO



TV STEREO



AM MONO?

Call our "Motorola C-QUAM AM Stereo Hotline" for details on how easy it is to purchase a Motorola C-QUAM AM Stereo system today. Remember to deal with the pro's at CAVECO at 1-800-268-4081 or 1-416-438-6230.



MOTOROLA

CAVECO Equipment Limited
1121 Bellamy Rd. North - Unit 10
Scarborough, Ont. M1H 3B9



Robinson as host. Collectively, those two shows are currently on over 100 Canadian and U.S. radio stations."

We pointed out to Dick that earlier in radio all major syndication had come out of eastern Canada, generally Toronto. "That's true," he said, "and you hit on a pretty important point. Some people tend to believe if it doesn't happen in Toronto—or, to some extent, in Montreal—it doesn't happen. All of a sudden, though, there's a lot of fine programs being produced out of Vancouver. For instance, the David Suzuki *Discovery* show, now in its third year on 65 stations. We

tape Fred Davis and Pierre Berton in Toronto and mix the shows at Seacoast Sound in Victoria. The French shows are recorded and mixed in Montreal."

Dick manages those shows out of Duncan and claims people think it is unusual. "How come," they ask, "that all of this stuff comes from the west coast?" Well, why not? It's just as easy to do. It used to take me two hours to drive from my home in Burlington, Ontario, to downtown Toronto; now it takes me only three hours to fly from Vancouver to Toronto. Distances really don't mean anything anymore—it's the product, not

where it comes from, that counts. People used to say, 'who are those guys out there—are they any good?' And we've proven that. The slogan in my company is: *Only the very best shows*. There's a lot of second-rate product in syndication—stuff that never gets played. As I said, if the show is good, no matter where it's produced, it's going to be heard."

Looking at the current formats in most radio stations, do they invite syndication? "Yes," said Dick, "but in a new manner. The old 30-minute programs, the 3-hour music shows, all of that is like the dinosaur. Today the sales we are making are of the short 2-minute variety, complete with a commercial. And we sell not only to FM for mosaic but also to AM—I'd say that the sales are split about 50-50. What the shows have to do is provide information. There's a great need for information out there, and what we do is produce shows the stations couldn't produce themselves. For example, for our Berton show *Canadian Achievers*, I have six writers across the country. Of course, a single station couldn't do that, nor hire the talent of Fred Davis, or a Suzuki—so we provide something that is impossible for stations to produce individually. Did you know that the production and distribution costs on *Canadian Achievers/Les Succes Canadiens* is over a half-million dollars annually?"

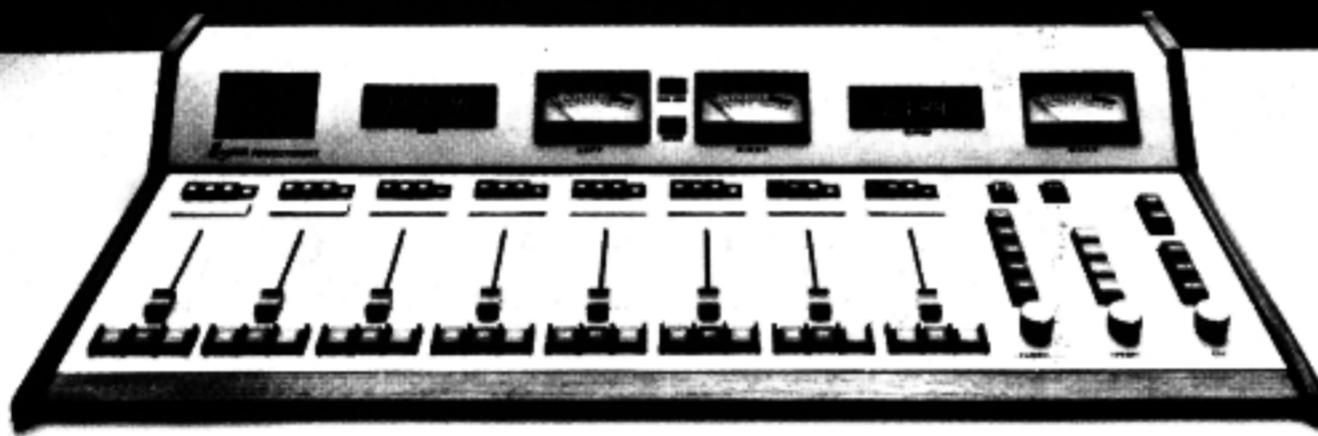
Dick is an enthusiast about radio but admits that the station operations manager today has to be flexible. "That's the first word I tell any youngster that's thinking about coming into the business. Be flexible in your attitude, flexible in your programming, in your planning, in your life. Radio changes on a dime. We all know the feeling of coming in in the morning and on your desk you've noted ten things that you've got to do by 10 o'clock. Those ten things are on the back burner 30 minutes later because you're busy putting out other fires. Radio is show business (I also tell them) and that's two words: there's 'show' and there's 'business' and you've got to have a little bit of both."

To us Dick Drew has a lot of both. He is a colorful, ebullient showman and he is also a very talented businessman. He has stamped out for himself a credible, admirable niche in Canadian radio. His standards are high, elevated from his small beginnings in Morinville to a front-rank role, whether that is in Duncan or nationally, via Vancouver. He is a striking example of Canadian enterprise, of broadcast ingenuity.

Phil Stone is a well-known broadcaster, writer 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, Ont. M1W 3E6, telephone (416) 492-8115.

LOGITEK PERFECTIONIST BROADCAST CONSOLES

the affordable alternative



- Workhorse 8 mixer and 12 mixer consoles with outstanding audio performance
- Easy installation using prewired stand alone punch blocks, with 6-foot umbilical
- Four mic preamps per channel
- 12 hour time of day clock
- Separate timer
- Built-in distribution amp provides four isolated outputs from each program channel
- Five year parts warranty



652 King Edward Street,
Winnipeg, Manitoba R3H 0P2
(204) 786-6715



6 Banigan Drive,
Toronto, Ontario M4H 1E9
(416) 421-9080

people in the news

• D.E.M. Allen & Associates—**Doug Allen** received the Order of Canada for his work with handicapped skiers.

• Broadcast News—**Steve Madely**, news director for CFRA/CFMO—FM Ottawa, was elected chairman of the national editorial committee of BN. He succeeds **Con Stevenson**, recently appointed gm of CKCK/CKIT-FM Regina. Madely has worked in radio and television in Hamilton, Peterborough, Kingston, at CHUM in Toronto, and at CKLW Windsor. He was also the first nd for CFGO Ottawa. Assuming Madely's former position of vice-chairman of the national editorial committee is **Art Kennard**, nd with CFRN/CKXM-FM/CFRN-TV in Edmonton.

• CAB—**Bill Roberts** named senior vice-president, television; he was previously a senior policy analyst with the CRTC.

• CHMA-FM Mount Allison—new station mgr is **Gary Greer**, formerly with CFRM-FM at Queen's U., Kingston, Ont.

• Crown International, Inc.—**Enos Yoder** named engineering group manager.

• Fidelipac—has named **Amy Welton** to sales marketing assistant; **Bill Franklin** to engineering support mgr; **Raymond Sherlock** to material control supervisor.

• Gerr Electro-Acoustics—**Alan Hardiman** appointed director of marketing and communications. Chairman of the Toronto chapter, Audio Engineering Society, Alan was previously with the Communications division, Workman's Compensation Board of Ontario.

• Ikegami Electronics Inc.—named **Mark Adams** sales engineer (U.S.).

• NAB—**Shaun Sheehan** has left NAB to establish a Washington office for Tribune Broadcasting.

• NANBA—**Spencer Moore** has taken early retirement as director of international relations, CBC, to become first full-time secretary-general of NANBA.

• NRBA—**Peter Ferrara** has resigned as executive vp of NRBA to become vp/gm, BMW Manassa, VA.

• Norsat International—announced the appointment of **Gordon Skene** to treasurer and director corporate finance.

• Quantel—recent appointments include **Douglas Schwartz** to marketing communications mgr., **Larry Biehl** as north central U.S. sales mgr., **David Dever** to national sales mgr., broadcast products.

• Shintron Co. Ltd.—**Ross L. Trimby** appointed vp sales, based in Cambridge, MA.

• Spectro Electro Industry Inc.—**Harry Schmidt** named marketing manager, located at Scarborough, ON, head office.

• Sports Federation of Canada—presented Doug Gilbert Award (Radio/TV) to **Johnny Esaw**, vp sports, CTV, for his '35-year involvement in all aspects of sports' at every level.

IN MEMORIAM

Ralph Parker

Broadcast pioneer Ralph Parker passed away in Thunder Bay on December 23, 1985, at the age of 71. Born in Midland, ON, he began his broadcast career there with CKPR, which in 1931, moved to Fort William. In 1944, he established CFPA Port Arthur, and 10 years later, supervised the inauguration of television in Thunder Bay. Ralph is survived by his wife, Kathleen, and son, James.

Ken Clarke

Ken Clarke, 44, a veteran radio broadcaster and announcer with CJSB Ottawa, died as the result of an automobile accident near Papineauville, PQ. Before joining CJSB in 1982, he had worked under the professional name of Mike Williams for five years at CJAD Montreal.

Walter Kanitz

Canada's best-known travel expert, Walter Kanitz, died at his Toronto home on February 7, 1986, at the age of 75.

A native of Vienna where he studied journalism, Walter Kanitz fled Austria soon after the start of World War II and served with the French Foreign Legion. He came to Canada in the 1940s, and began his broadcasting career with CBC Montreal, later going to CHUM and CFRB Toronto, broadcast sales, and finally the travel desk of CKO News. He leaves his wife, Margaret, two sons and a daughter.

Remote possibilities from AKG.

For unlimited freedom of movement and the sound you want, AKG now offers no-compromise wireless microphone systems based on the popular and renowned vocalist microphones — D330, D321, C535 and CK67. Each Wireless Modular System (WMS) incorporates ergonomically designed features — LN compander circuitry for increased dynamic range, selectable carrier frequencies, and adjustable sensitivity. D330, D321, C535 and CK67 systems also feature two receiver sections and twin antenna. A dedicated circuit in each case monitors and selects the best signal with the highest S/N ratio. Interference due to local reflections is virtually eliminated. LED indicators provide continuous status of all essential functions. All "links" in each system, from transmitter to receiver to microphone element have been exhaustively tested and carefully matched to provide perfect transmission characteristics. It is this typical attention to detail, common-sense engineering, and thorough research that has helped build the AKG reputation as probably the finest (wireless) microphone manufacturer in the world.

Modular Microphone Systems.



MARCH/APRIL 1986



CKNW Goes Inside Expo

by John Ashbridge and Dave Glasstetter



THE PROJECT

When Vancouver was chosen as the site for the 1986 World's Exposition on Transportation and Communication—Expo 86—we realized that CKNW would be expected to play an important role in this once-in-a-lifetime event.

As the dominant AM station in Canada's third-largest market, we knew that CKNW would be expected to live up to its long reputation by providing blanket coverage of this exciting international event. We also anticipated that part of our involvement in Expo 86 would take the form of actual participation in the five and a half months of festivities.

With up to 50 world leaders, countless

dignitaries from the public and private sectors, and an estimated 15 million or more members of the general public expected to visit the Expo 86 sites over a 165-day span, we quickly realized that nothing less than a permanent, full-time broadcast facility—staffed by permanent, full-time people—would be required.

The simple solution to the coverage problem seemed to lie in finding a location somewhere inside the Expo grounds. The not-so-simple aspects of meeting the challenge were evident in the fact that, 23 weeks after it opens, Expo 86 will go out of business—forever.

Weighing this need for a permanent installation to handle what amounted to a 'temporary' job, we decided to borrow a

page from the Expo book and look beyond the exposition, in an effort to determine what long-term uses might exist for a facility which would require a solid investment in time and money to establish.

Through negotiations with the British Columbia Pavilion Corporation, the government body responsible for constructing, equipping and operating the 'host' pavilion at Expo 86, we were able to secure a long-term lease on 324 square meters of space with the East Building of the three-building B.C. Pavilion complex.

We were 'inside Expo'.

A Permanent Studio Facility

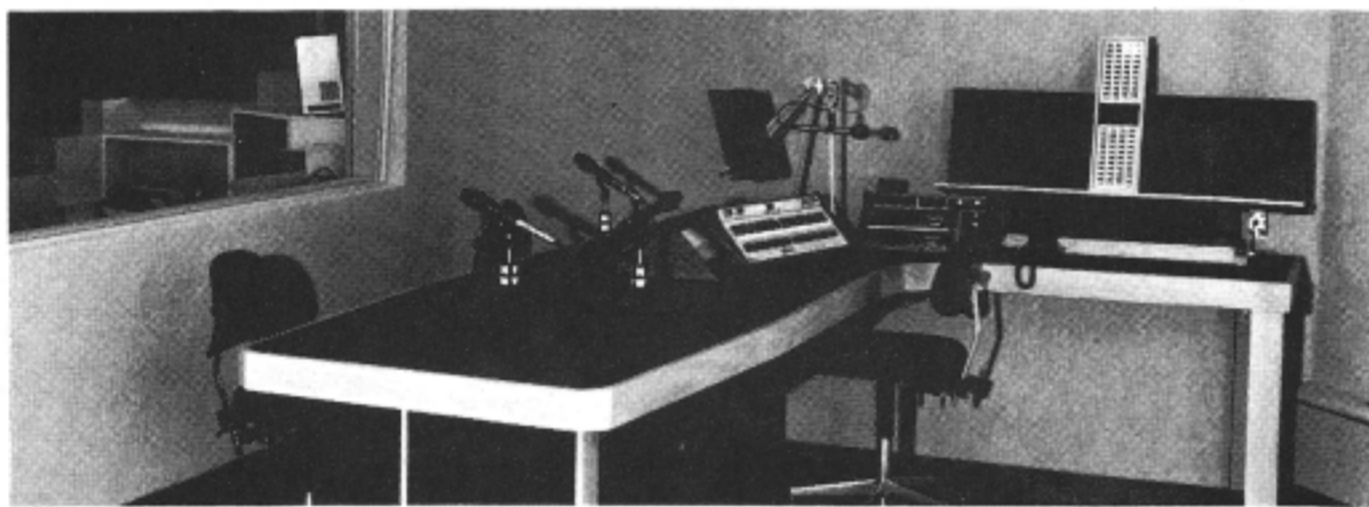
The long-term lease came about as a result of the B.C. Pavilion Corporation's desire to attract long-term tenants for the period *after* Expo—and from our realization that there were long-term uses to which we could put this 'temporary' broadcast installation.

For more than 25 of its 42 years of operation, CKNW has maintained a remote studio facility in downtown Vancouver. Our main studios and offices are located in the suburb of New Westminster, some 25 kilometres southeast of the downtown Vancouver core. As the metropolitan area has grown to its present population of almost 1.25 million, CKNW's growth has kept pace. A 250-watt outlet employing a handful of staff, serving a suburban area once far removed from the centre of population, has become a 50,000-watt AM stereo station with a staff of almost 100, serving the entire metropolitan region.

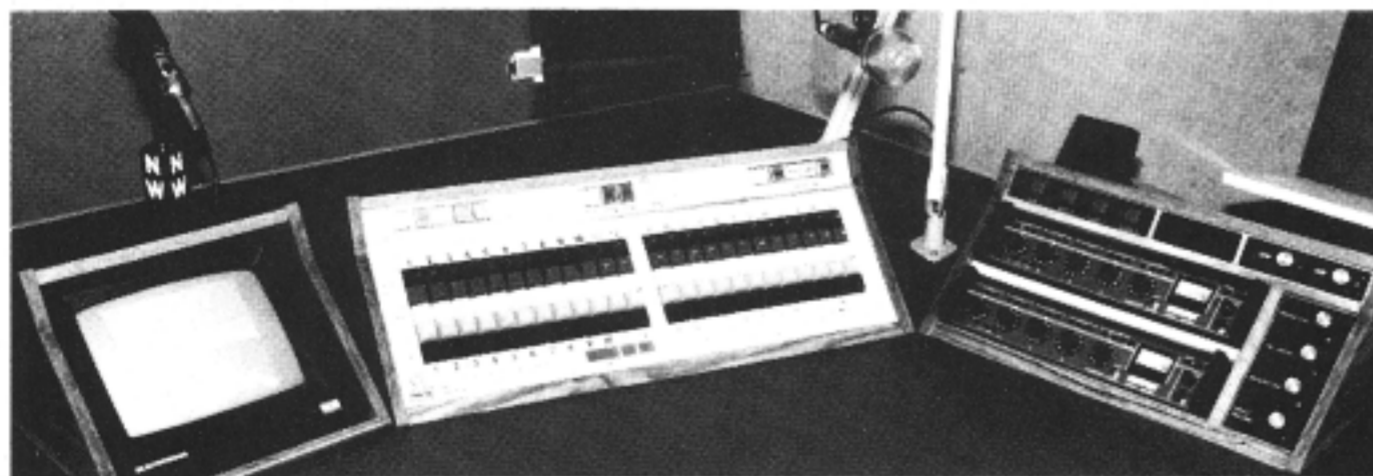
Open-line talk show programming makes up more than eight hours of each broadcast day on CKNW. A measure of the continued success of these programs lies in the fact that they originate from the Vancouver studios—in the centre of the region's news-making core.

B.C. Pavillon at Centre of Action

Expo 86, as the biggest public celebration ever held in western Canada, will occupy a lot of air time throughout 1986—as it has already, leading up to the opening on May 2nd. What better location for our talk shows than a studio within the host pavilion at Expo 86? Part of the attraction in the long-term site lease exists in the agreement that CKNW has 'exclusivity' as



Main talk show studio. The specially constructed table accommodates the host (in front of the control board) and three guests, each on their own microphone. Up to six guests can be seated, with two sharing each microphone. The host has a view of the status board (over the window) which tells him that he is 'on air' and also has special alert lights, to warn of commercial breaks, special bulletins, or if his guests are 'off mic', the time, displayed in both digital and analog format; L.E.D. VU display, which monitors the program on the last point leaving the studio. The host has direct eye contact with the screener-producer on the other side of the window. Not yet installed when this photo was taken: two Studer-Revox PR-99 Mk 2 tape machines, to the right of the host.



Close-up of host's switchboard, video monitor, mic and speaker level controls. The switchboard will accommodate up to 24 lines. Normally 8 to 12 lines are used for the average open line show, but all office lines are also capable of being put on the air. The video monitor is a message-receiving device, and is programmed from a keyboard in the screener-producer's position. The turret containing the two Shure M-267 mixers are for the individual control of microphone levels and tape-cassette levels. Level controls for the monitor speaker, telephone speaker, intercom speaker, head-phone and VHF/UHF are also available at this position. The lamp on top of the turret is an 'on air' light that is controlled from the main studio in New Westminster.



Screener-producer's position (looking into the main studio). All phone calls are screened by this producer, who makes the decision on whether the call is topic-related. If the call is suitable, it is transferred to the talk show host's position in the studio, where it can then be put on the air. The computer keyboard (left) is used for typing messages and information that will appear on the video monitor in the main studio. The screener also has the means to record and make tape cassette copies of programs in progress. The video monitor receives cable channels, which are then available to the talk show host on his video monitor. (Also available at this position is the intercom system to all exterior doors, along with electric latch door release buttons; a video camera input is provided for visual identification of guests at the exterior doors.)

the only radio station with a permanent on-site broadcasting complex—without our having to act as an 'official broadcaster' for Expo 86.

And the location, from a programming and news standpoint, is almost ideal.

Virtually all of the ceremonial events to be staged at Expo 86 will take place in the

'Plaza of Nations'—a 5,000 square metre, glass-covered open area which forms the courtyard at the centre of the B.C. Pavilion complex. The Expo Media Centre is located in the West Building of the complex, where daily briefings will be held and all media arrangements will be co-ordinated. CKNW will join the rest of

the print and electronic media in setting up a permanent facility in that building as well. The difference is, while other media outlets will have the crowded Media Centre as their single base of on-site operations, it will serve CKNW only as a 'satellite location' to our main, on-site studios. Expo 86 has received accreditation inquiries from an estimated 15,000 to 20,000 journalists from all over the world—an obvious indication that space in the Media Centre will be at an absolute premium.

The Stadium Gate, one of three land entrances to the main Expo site on the False Creek waterfront, opens onto the Plaza of Nations, and our studio location within the B.C. Pavilion complex is adjacent to major off-site transportation services as well as the on-site monorail system.

Perhaps the only drawback to the location, from a promotional view, is the fact that the studios are on the top floor of a three-story building—keeping our on-air personalities from going 'on display' before the fair-going visitor. While we have a bird's-eye view of the entire Expo site, the general public won't be able to see us in action.

THE FACILITIES

CKNW will have approximately 20 full-time and part-time staff working at the on-site studios during 1986. Of this number, roughly half are connected with the various talk shows, while the remainder are either news personnel, programming people or support staff.

The broadcast complex includes four separate locations from which programming can originate, a combined equipment room and engineering maintenance office, a boardroom, open and private offices, a reception area, staff lunch room and washrooms.

The 28 square metre talk show studio, used by all three of our primary talk show hosts and their guests, can comfortably seat up to six occupants. The 16 square metre news centre is designed to handle as many as three people, each working with separate portions of the equipment at individual positions. An almost identical 16 square metre auxiliary studio, which faces into the news centre, can be used for interviews and talk show taping sessions, or as a talk or production booth for the news centre staff, or as one of the studios from which a number of visiting broadcasters will originate live or pre-taped coverage of Expo, delivered via satellite to their distant stations and audiences.

The boardroom, which—like the talk show studio, news centre and auxiliary studio—faces the outside building wall, also gives a spectacular view of the 70-hectare site. It has also been wired to accommodate a portable mixer, tape and mic inputs, and a telephone coupler or

ANNOUNCEMENT

MARUNO ELECTRONICS LIMITED

Manufacturers *Exclusive* Representative for the following Products in Canada.

International Tapetronics Corporation/3M
 Monroe Electronics Incorporated
 McCurdy Radio Industries Limited — (Except Quebec)

*** Other Products Include:**

ADC Audio Video Components	O.C. Mechanical Jackfields
Altair Electronics	Profile II Tone Arms
Bryston Power Amps	Ramsa
Delta Electronics	Sennheiser
Electro-Voice	STL Cart Test Tapes
IMC Cartridge Tape Audio Switcher	Studer/Revox
JSA Audio Stereo Processor	Technics
Lauderdale Mic Booms	WICL Audio Video Silence Detector
3M Audio Video Tapes	

*** Call today for all your Broadcast requirements . . .**



MARUNO ELECTRONICS LTD.

BRITISH COLUMBIA

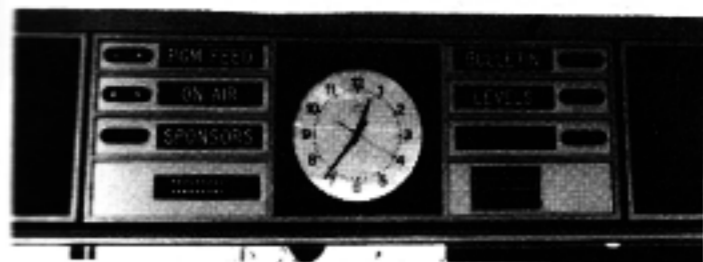
Seven West Seventh Avenue,
 Vancouver, B.C., Canada V5Y 1L4
 Phone (604) 872-0636 • Telex 04-507591

TORONTO

297 Evans Avenue,
 Toronto, Ontario, Canada M8Z 1K2
 Phone (416) 255-9108 • Telex 06-967632

CALGARY

201, 7710-5 Street S.E.,
 Calgary, Alberta, Canada T2H 2L9
 Phone (403) 255-6616 • Telex 03-826596



Close-up of status board.

land-line link and can be pressed into service as an overflow studio location, without disrupting operations in any of the adjacent studios.

The reception area has been equipped to screen all incoming telephone calls to the talk shows. Those pertinent to the topic under discussion are transferred to the talk show studio system and called up, on air, at the discretion of the program host. The reception/screening area also contains cassette recording and dubbing facilities and a keyboard and video monitor which feeds a video monitor in the studio, on which messages can be flashed without the need to interrupt the program host or his/her guests.

Two secured stairways lead to the studio complex and wheelchair access has been provided through a door which opens from the lunch room onto a rooftop restaurant seating area, reached by elevator elsewhere in the East Building. This rooftop seating area also offers a vantage point from which we plan to broadcast live commentary on several of the ceremonial events taking place in the plaza below.

THE EQUIPMENT

The talk show studio telephone selector system can handle a total of 24 lines. Eight lines are overlined from a main, public, toll-free dialing number. An additional two lines and an '800' number are used for out-of-town calls. The remaining 14 lines are the private office lines and news centre numbers—all incoming lines can be put on the air at this position. The telephone handling equipment was designed and built by CKNW chief engineer Dave Glasstetter and assistant engineer Mark Friesen. The telephone system was supplied and modified to CKNW's needs by B.T.E.

The talk show host has control of four microphones for guests, monitor controls for telephone speaker levels, cue levels, VHF/UHF operation, an intercom to the call screener, an intercom to the main CKNW studios in New Westminster and intercom connections to the other studio locations within the broadcast complex. Lighted signalling in the studio for 'on air', 'commercial break', 'news bulletin', 'off mic', etc., is flashed from the New Westminster control rooms, using a Quindar signalling system. The talk show studio is also equipped with two Revox PR-99 MK2 reel-to-reel record/playback machines. Each machine in this studio, the news centre and auxiliary studio is fed

through a 20-input selector which connects all audio feeds generated within the broadcast complex, plus a number of feeds from other locations on and off the Expo site.

The construction of this studio is unique, in that it is located directly above the B.C. Pavilion entertainment area. The studio floor is built on a floating concrete pad, with double-wall construction for sound isolation. Heating and cooling for each studio is via separate heat pumps, adding to the sound isolation rating throughout the complex.

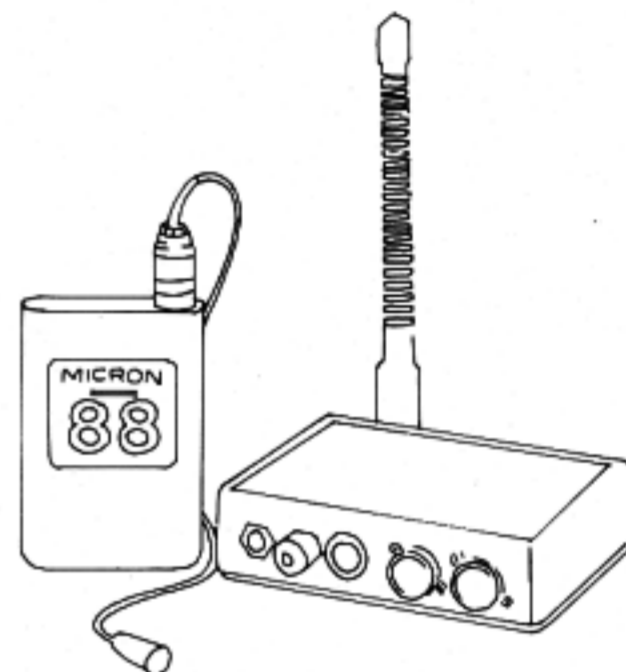
The news centre is more of a control room than a traditional newsroom. We

have installed a 10-channel console, a three-deck cartridge record/playback unit, two Revox PR-99 MK2 open-reel record/playback decks, a cassette record/playback unit, and inputs for telephones, portable cassette units, remote broadcast lines, as well as the main CKNW program signal, VHF/UHF transmit-receive capability and audio feeds from the other studio locations within the on-site complex in addition to outside broadcast lines.

Newsroom Computer System

The centrepiece of the news centre's

micron
professional
wireless
microphones



... for all the sounds there are!

Micron systems are small enough to conceal, built ruggedly to perform with reliable perfection on the most difficult of locations and are easy to operate. Sound at its absolute best, without fade or dead spots.

Designed for compatibility with a wide variety of microphones from the tiniest lavalier to hand held, Micron has a versatility unmatched by other products. Micron is recognised and used throughout the world by professionals who excel.

For full details and specifications on the TX101 and TX501 Series contact either Alex or Steve at (416) 232-2348

P.S. Enquire into the most reassuring backup program in the professional market today.

AUDIO SERVICES
CORPORATION (CANADA) LTD.
85 Mervyn Avenue,
Islington, Ontario M9B 1N6
(416) 232-2348

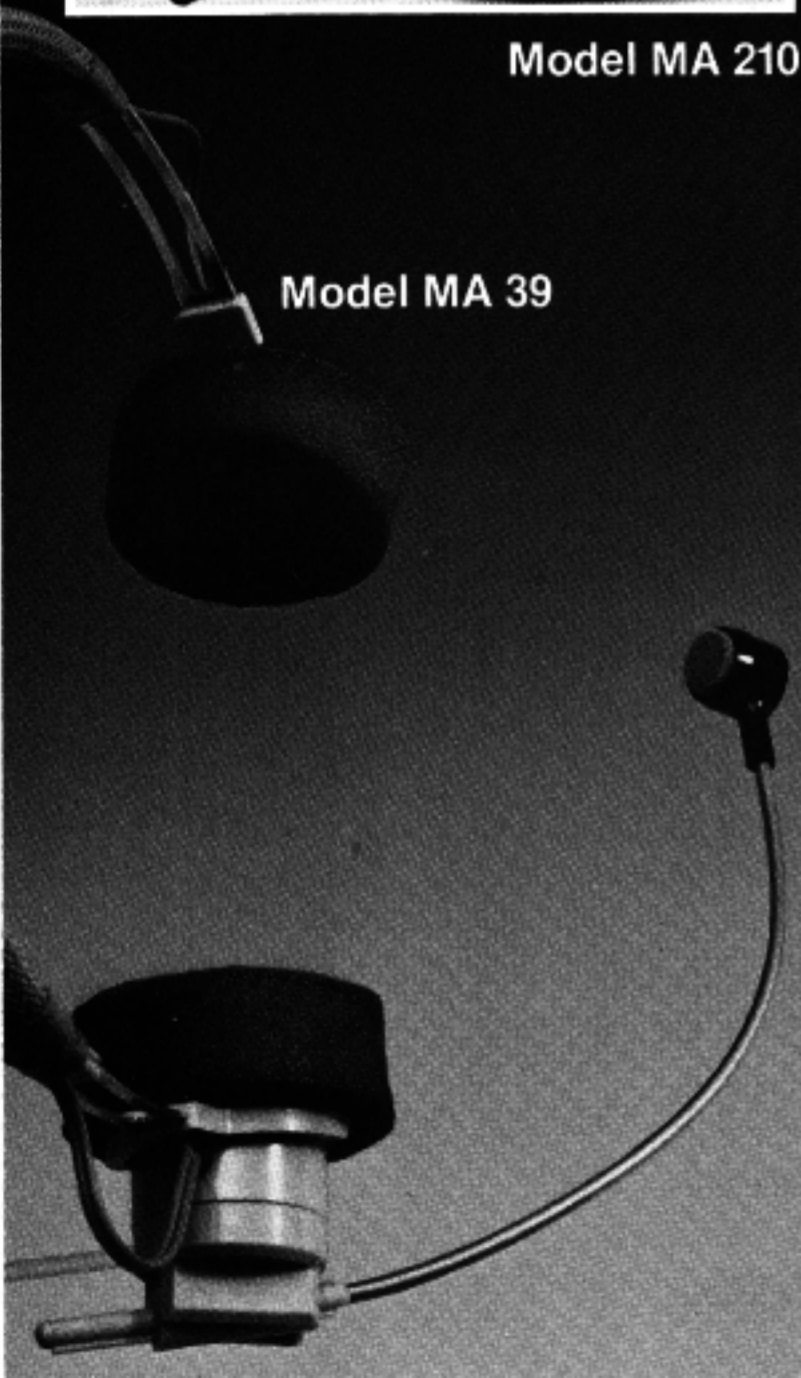
YOU'VE NEVER HAD IT SO LIGHT, COMFORTABLE, AFFORDABLE, REPAIRABLE.

Introducing the latest in headsets, with boom microphones, for T.V. and radio production: Model MA 210, a sports broadcast headset and Model MA 39, an ultra-light, for studio broadcast. Available through your dealer or Miles Air Products Ltd. (416) 690-4404.



Model MA 210

Model MA 39



MILES AIR PRODUCTS LTD.
411 Birchmount Road, Scarborough,
Ontario, Canada M1K 1N3

Circle #153 on Reader Service Card

cover story

equipment is the broadcast newsroom computer system supplied by BASYS, Inc. of Mountain View, California. The broadcast complex houses the computer mainframe, with remote terminals located in the Expo Media Centre and at the Canada Pavilion, located 1.5 km away on the downtown Vancouver waterfront. This system is used strictly as an Expo news-gathering and processing tool and, although it interfaces with a Canadian Press/Broadcast News wire-service input, it does not handle any of the data generated by CKNW's main newsroom, 25 kilometres away in New Westminster.

A multi-channel VHF/UHF scanner, television monitor and a high-speed printer complete the equipment at the main-desk position. A second location at the rear of the news centre is equipped with a microphone, telephone and cassette patching system and a word-processing terminal linked to the computer system.

The auxiliary studio is almost a mirror-image of the news centre, except that the millwork has been modified to add an interview pedestal, around which up to three people can sit for a roundtable conversation. The auxiliary studio also includes a turntable, mainly for use by the talk show staff in situations where a guest from the entertainment or show business industries is being featured and recordings are required as part of the programming. When this studio is in use by a visiting broadcaster at Expo, the outgoing feed can include any variety of open-reel, cassette, cartridge tape, live/interview or disc material.

The equipment room contains three racks which house all of the line amplifiers, telephone-handling equipment, switching gear, patch bays and VHF/UHF transmitting-receiving equipment, plus a service bench and spares storage. We have installed a VHF base station with remote-control capability, linked to the consoles in the talk show studio, screener position, news centre and auxiliary studio, offering point-to-point communication with our New Westminster control rooms and main newsroom, four news cruisers, two marine cruisers and engineering staff vehicles. The UHF link ties the broadcast complex into the UHF system at CKNW, which serves our 'Eye-in-the-Sky' traffic-spotting aircraft. VHF and UHF portables are also available for on and off-site back-up communications.

The VHF/UHF links will become extremely important during Expo, given the number of events taking place on land, sea and in the air. With a view to that coverage, we have also installed a Marti RPT-2 studio-transmitter link, which operates in the 450 MHz range. The portable transmitter can deliver a studio-quality signal on battery power from up to 4 kilometres away, sufficient to provide us with a 'wireless' capacity from land, sea

or air anywhere in the immediate vicinity of Expo 86.

As mentioned earlier, many of the legitimate news-making events at Expo 86 will take place in the Plaza of the Nations. The podium location has been hard-wired for sound by Expo. The signal from this and several other on-site locations, such as the briefing theatre, will terminate in the Media Centre. In addition to the BASYS computer terminal and telephone line, we will install a small mixer and broadcast line at our desk in the Media Centre. This will allow us to pick up any signal offered by the Expo 'in house' broadcast service, without having to leave our studio facilities in the B.C. Pavilion. If the signal is not provided by Expo's staff or if lines to the news-making venue do not exist, we can use the Marti portable transmitter, fed by a portable mixer, to deliver a high-quality signal to any point in the broadcast complex. Visiting broadcasters utilizing our facilities can also take advantage of the same systems, using their own or our on-site staff.



Rackroom. Chief engineer Dave Glasstetter is seen checking installation.

All studio and rack equipment installed in the CKNW broadcast complex was pre-assembled at our main studios and tested before being moved to the B.C. Pavilion. The pre-building and design took 18 months to complete, cutting the actual installation time to less than two months. All equipment, with the exception of the BASYS, Inc. computer system, was either supplied or built by Canadian companies:

- The news centre and auxiliary studio consoles were built by John Visser Electronics of Terrace, B.C.
- ITC cartridge record/playback and erase-recycle units, Studer-Revox tape machines, Bryston power amplifiers and related equipment were supplied by Maruno Electronics of Toronto.
- Gentner SPH-4 telephone hybrids, on-air lights and Marantz cassette decks were

MARCH/APRIL 1986



News studio. Using telephone is John Ashbridge, CKNW news coordinator. The console is a JVE 5050 built by John Visser Electronics. To the right are: the turret assembly which houses the ITC 3-deck recorder-producer unit; the modules containing the input selectors for the cartridge machine; the two Studer-Revox PR 99 tape machines; the Gentner SPH-4 telephone hybrid unit; and (above the tape machines) assorted monitor panels and scanners. To the left of the console is one of the Kimtron word processors.

The newsroom also accommodates a small editing desk with another Kimtron word processor, and the news-oriented computer system.

Not shown is the production studio, which is a mirror image of the news studio and is located on the other side of the window area seen above the console. The equipment in the production room is the same as the news room.

supplied by Jon Young at Allied Broadcast in Toronto.

- The Marti STL and all of the VHF/UHF antenna systems were supplied by Comad Communications of Calgary.
- The Uniden VHF/UHF base stations and portables were supplied by Ratel Communications of Vancouver.
- Kimtron word-processing equipment was supplied by R.A.E. Electronics of Burnaby, B.C.

THE PROGRAMS

The broadcast complex at Expo will not only serve as the origination point for more than a quarter of the day's programming at CKNW—but, as already explained, will also serve as the working headquarters for news staff assigned to cover Expo 86. The news centre's output will in-

clude news reports heard on CKNW, its sister station CFMI-FM—also located in the New Westminster main studios—and Expo-related news and feature reports supplied to the Western Information Network (W-I-N) and Standard Broadcast News (SBN).

Western Information Network

The Western Information Network is a satellite-linked network of stations throughout British Columbia, served via Telesat Canada's ANIK-D satellite through an uplink at British Columbia Television in suburban Burnaby, B.C. A series of base stations and their rebroadcasters, numbering more than 80 in total, carry a full voice-report and actuality service supplied by CKNW and the W-I-N member stations, as well as hourly network newscasts and sportscasts which originate from New Westminster. W-I-N also supplies a variety of music and talk programs—including CKNW talk shows—and the play-by-play broadcasts of National Hockey League games involving the Vancouver Canucks.

During Expo, a series of 'specials' will be added to the current offering of two-minute *Inside Expo* reports. *Inside Expo* will grow from a three-a-day/seven-days-a-week schedule to six-a-day/seven-days-a-week when Expo 86 opens on May 2nd. Starting in March, a separate satellite-linked network of 40 stations outside B.C. is carrying a twice-daily feature called *Today at Expo*. These three-minute up-dates originate anywhere an Expo-related event is taking place—in Vancouver, elsewhere

in North America, or even overseas, coordinated through CKNW's news centre at Expo.

The Western Information Network also carries the Standard Broadcast News service—which includes the NBC Radio News service from New York—on a satellite downlink from CFRB Toronto. As the main British Columbia contributor to SBN, CKNW is responsible for national coverage of B.C. events from its New Westminster newsroom, its legislative bureau in Victoria, other W-I-N member stations and, now, its bureau at Expo.

AFTER EXPO

And, when the Expo crowds have come and gone, exhibits have been removed and Expo 86 is history, what will happen to this 'temporary' facility in what was once the B.C. Pavilion?

The B.C. Pavilion is the 'anchor' in a re-development plan for the once-industrial False Creek area. Located across the street from the B.C. Place Stadium—Canada's first and only domed, major-league stadium—the Pavilion will become the first in a series of planned commercial, public and residential buildings. To be known as B.C. Place, the multi-million dollar development already has its first long-term commercial tenant: CKNW.

The talk show studio, the auxiliary studio, boardroom and office facilities will remain—only the news centre will be altered, with some equipment re-deployed and the area converted to a combined editing suite and interview room.

- The talk show staff will have additional space in which to prepare and present programs.
- The CKNW/CFMI-FM news staff will have an area and equipment in which to assemble and transmit reports and features on the growing number of events expected to take place in the re-developed B.C. Place complex—a new hub of activity in Vancouver's downtown core.
- The sports-oriented talk shows will have new studio space adjacent to the B.C. Place Stadium in which to conduct their pre-game and post-game analyses of the Canadian Football League contests and—perhaps someday—major league baseball games played under the 'dome'.

CKNW's investment in this 'temporary' facility, built for the specific purpose of covering a once-in-a-lifetime international celebration, will become an investment in a permanent new facility.

And we will probably be very thankful—if and when the equipment and the people live up to our functional expectations—that we made the initial decision to go 'Inside Expo'.

John Ashbridge is Expo Project Coordinator/CKNW Radio, and Dave Glasstetter is Chief Engineer/CKNW Radio, in New Westminster, B.C.

Clydesdale

CUSTOM CASE CO. LTD.



86 Sinnott Road
Scarborough, Ontario M1L 4M7

For the dealer nearest you call:
(416) 755-6543 (416) 755-7938

BROADCAST BEAT

by Phil Stone

WINTER WRAP-UP: Attending some of the lengthy hearings for the new FM licence in Toronto (a 'giant crap shoot'—as one observer remarked), we ran into **Irving Zucker**, who's associated with **Jack Schoone** in several Maritime stations; **David Ruskin**, who's graduating as a lawyer and should make a fine broadcast attorney; **Ted Randall** and Londoners **Rick Richardson** and **Gord Hume**—Gord's FM application has since been approved by the CRTC... Our thanks to **Duff Roman** of CHUM-FM for his good wishes... Telemedia Radio Sales is the new name for Opex Communications... Those p.s.a.'s on TV for the Canadian Liver Foundation were prepared free by Ted Bates Advertising... *Where do men listen most to in-car radio?* Birch Radio says that Calgary is 30 to 40% higher than the national average, while Montréal is lowest; peak listening is in afternoon drive time... There was little mention in the press of the passing on December 5th of the **Hon. Robert DuVall 'Doc' Guy**—retired from the Manitoba Court of Appeal, but with a broadcast connection. Doc was *Gentleman Jim*—a discovery of **Horace Stovin**, who was at that time the Canadian Radio Broadcasting Commission's program director for Western Canada. (In that post, Horace conceived just about every CRBC program that originated in the west—his story would make an interesting book, and certainly he should be in Canada's Broadcasting Hall of Fame!) Horace gave Doc—then preparing for a law career—a weekly 15-minute slot on which he played the piano, sang, and delivered some sophisticated chatter. A good friend of **Rory MacLennan**, Doc will likely be remembered by such worthies as **Lyman Potts**, **Norm Botterill**, **Syd Boyling** and **Dick Rice**...

Canadian Advertising Foundation: elected directors are **Bill Hall** of CFRB Toronto and **Bob McKeown** of CKCO-TV Kitchener; chairman is **Mike Kennerly** of General Foods, also president of the Broadcast Executives Society... Pioneer TV newsman

Larry Henderson, of recent years editor/gm of *The Catholic Register* has gone into retirement... At Armedia Communications, **Greg McInerney** has joined the staff, in audio/video production; **Dave Mazmanian** has formed a joint venture with **David Partridge** of Southern Star Video Promotions for radio promotion involving the Vestron Musicvideo catalogue... Whereas the BBC spends 2% of its budget on training personnel, CBC spends but 0.35% on training its 11,300 employees. CBC's income is now +\$800 million from grants; +\$200 million from advertising.

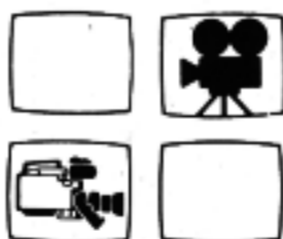
CCTA, the Canadian Cable TV Association, reports that 95 of the top 100 cable systems are members... **Ed Fitkin**, the former CBC sportscaster and PR director for Maple Leaf Gardens, is reported to have made considerable recovery from the stroke he suffered some years ago. He's retired and living in Fountain Valley, CA... Coca-Cola's Canadian ad budget is \$20 million a year... Among the well-known names who departed Standard: **Ted Billo**, president/gm of CJOH-TV Ottawa; **Dic Lucas**, CJOH-TV sales manager; **Larry Nichols**, president of Standard Broadcasting. Retired from CFRB Toronto: veteran announcer **Bill Deegan**, and broadcasting pioneer **Mac McCurdy** (whom we profiled in BT, March/April/82). President, then deputy chairman of Standard, he remains a director. Mac has 'done it all' in radio, since he started at CKLW Windsor and later became a charter staff member at CJAD Montreal. He also once shared announcing chores with **Cy Strange** on the late **Kate Aitken's** show... The longest running TV program in Canada is CBC's *Country Canada*, now in its 32nd season... **John Wood**, vp/sales, CHUM-TV group, is now chairman of BBM; he replaces **Gary Miles**, named president of the Radio Bureau of Canada.

After some 10 years in radio, **Stan Genno**, one of our early

Also by Phil Stone: An interview with Dick Drew — page 28.

DIGITAL TRANSCODING

International standards conversion
PAL SECAM NTSC



Alpha Video & Film

4521 Avenue du Parc, Montréal, Québec, Canada H2V 4E4

(514) 288-6127

Alpha Video & Film—The Transfer Specialists

Humber College radio students, is now in Toronto with *Harbourfront's* marketing department... Have you noticed the drop in price of VCRs? Introduced some 10 years ago at about \$1000, some VCR's now go for under \$300. Hi-fi models used to bring about \$1500—today, \$700-\$800... Baton's Agincourt Productions is said to be the largest video cassette duplicator in Canada... The CBC is justly proud of its \$5.1 million mobile production centre (described in detail elsewhere in this issue of BT)... The success of the Blue Jays means increased income for TBS and its Toronto flagship station, CJCL. Cost of a 30-second spot (162 games) on CJCL is up from \$21,000 to \$31,000—almost \$200 per occasion; for the 50-station network, it's up from \$51,000 to \$60,000—about \$370 per occasion... Altho' he cancelled his contract with ABC-TV Sports, **Howard Cosell** will continue on ABC Radio... Perhaps you heard about the DJ who played *Grandma Got Run Over By a Reindeer* 27 times in 3 hours on an Iowa radio station. Turned out he wasn't fired, but was put on 90 days probation and given a reprimand and 2-day suspension. Says he just wanted to get into the Christmas spirit!... The romantic novels of **Barbara Cortland** have sold 100 million copies in the U.S. in 10 years, so British film-maker **Lord Grade** is developing a TV series based on six of the novels, aimed at the U.S. market. Cortland is Princess Di's step-grandmother and is still writing at age 84... **Brian Antonson**, president of the Broadcast Education Association of Canada, sent us copies of the new brochure outlining BEAC's history and role... CITY-TV Toronto exercised its option to withdraw from the Nielsen ratings, after the first year of a 3-year agreement. General sales manager **Greg Mudry**, while commending Nielsen's excellent service, said the 'fundamental problem' is Nielsen's definition of the Toronto DMA to include the Niagara Peninsula, a distinct market in its own right, not reached by CITY's signal... Condolences to former CKEY newsman **John Yoannou**, now a media relations officer

with Peel Region Police, on the death of his father Nick, a well-known Toronto restaurateur... More changes at CFRB: **Peter Dickens** was replaced after many years on major breakfast news reports by **David Craig**; Peter now co-ordinates newsroom activities on the important morning shift, and continues his 12:30 noon report. **Charles Doering** moves from the 7 and 9 am news to 5 minutes of news and opinion at 6:30, 7:30 and 8:30 am...

In its latest fiscal year, CFCF-TV Montreal had revenues of \$82.4 million, up from \$74.2 a year earlier; earnings rose from \$6.9 million to \$8.9 million... New cable TV channels keep coming: Canada now has TLC, The Life Channel, and the U.S. is getting a Comedy Channel... **Pat Beatty**, long-time co-ordinator for the Telecaster Committee of Canada, was promoted to executive director; **Bruce Evoy** became co-ordinator for English services and **Greg Mudry** became a director... The popular game show *Jeopardy* is now seen on CFMT-TV Toronto; its host, **Alex Trebek** is a native of Sudbury... TVOntario's French service is to begin in January, 1987, programming 10 hours a day, seven days a week. French is said to be the mother tongue of almost 500,000 Ontarians and the second language of another 500,000...

CJOB WINNIPEG CELEBRATES ITS 40th: Promo director **Ken Babb** writes that to mark the occasion in March CJOB is having a reunion of former employees. Even if you can't attend, send your name, address, 'phone number, and when you were at 'OB to: CJOB Reunion, 930 Portage Ave., Winnipeg, MB, R3G 0P8.

The Canadian Association of Broadcasters has set up separate radio and TV boards. **Michel Arpin** is chairman of the joint board; the RADIO board is chaired by **Jim McLaughlin** of Moffat, vice-chairman is **Liette Champagne** of Telemedia; the TELEVISION board is chaired by **Robert Elsdon** of CFPL-TV London, vice-chairman is **Terry Coles** of CFCN-TV Calgary... Coles has also joined the board of the Television Bureau of Canada, along with **David Mintz**, president, Global TV Network, and **George Lund**, vp/gm of Mid-Canada Communications... Some 45 nations will participate in the big Expo '86 show in Vancouver, where **Mel Cooper**, president of C-FAX Victoria, is vp of corporate sponsorship. Expo chairman **Jim Pattison** is saying that, unlike some of its predecessors, the fair will pay its way... A.C. Nielsen appointed two new vp's: **Daniel Brager** and **Wayne Dalgarno**... New in Victoria newsrooms: **Eryn Brooks** at CKDA, formerly of CKY Winnipeg, and **Martha Cody** at CFMS-FM, a Ryerson grad formerly at CFOR Orillia... Now on the board of the Motion Picture Industry Association is **Bill Stevenson**, pd at CKCK-TV Regina... **Pierre Desharnis**, who started his career as an artist with Radio-Canada, became vp/art director at Groupe Marketel, Montréal... **Richard Genin**, vp of sales for CFMT-TV Montréal was honored upon his resignation as Brigadier General in the Canadian army, when his regiment, Les Fusiliers Mont-Royal, named him honorary Colonel...

Communications minister **Marcel Masse** appointed Montréal lawyer-journalist **Lorraine Duguay** to the CBC board for a three-year term. A former announcer in Québec, she has often been a guest on open-line shows discussing issues that involve the legal profession... **Phyllis Diller** makes no bones about the extensive plastic surgery she has undergone: face lifted, stomach tucked, nose bobbed, breasts reduced, teeth straightened. 'About the only original parts of her still left,' said one wag, are her elbows'... Toronto actor **Harvey Atkin** continues to do well on *Cagney & Lacey*—he's now in his fourth season and gets star billing... Remember **Murray Westgate**, the Esso dealer on the hockey telecasts? He's on CBC for another season as the editor on *Seeing Things*... **August LaPaix** was chosen host of CBC Radio's *Cross Country Checkup*, a position she held in 1982 before taking on CBC Stereo's all-night *Brave New Waves*...

RADIO BUREAU OF CANADA: Toronto and Montreal broad-

NEW PORTA-BRACE CASE FOR THE SONY BVU-150 RECORDER



■ Porta-Brace continues to design new and better cases for new equipment. Check the many advantages of this new case. See it at the NAB Show, Booth No. 2532, or write for information.



K&H Products, Ltd.
 Box 246
 North Bennington,
 Vermont 05257
 802-442-8171

casters are said to have produced more than \$1 million in new advertising revenue last year as the result of the Radio Product Measurement study, and RBC president **Gary Miles** says it will be repeated in the Toronto market again in 1986. The study updates radio station data, retail shopping patterns and national product usage, helping advertisers to better target their spots. BBM, which did the field work on the original study, has undertaken RPM studies in other markets, including Edmonton, Calgary, Québec City and Ottawa-Hull.

(Editor's note: For news about developments in radio advertising, see the Radio Bureau of Canada's regular feature commencing in this issue of BROADCAST TECHNOLOGY.)

We were saddened to learn of the passing of **Pat Pearce**, the former CRTC commissioner. We had come to know Pat very well over the years and would chat with her at hearings, in her Ottawa office, and once over luncheon at Tiffany's in the capital, when she spoke of her wish for better service in northern Canada, particularly for the Inuit. She helped much when I ran the Humber College radio course. I recall once in Ottawa that she took me from her office to meet a man she predicted would be a rising star in the CRTC, and she was right; his name was **Real Therien**. Her colorful eye-patches made her immediately identifiable, and were worn because of a sight problem which resulted from complications that followed a sudden tonsil infection. Born in Belfast, she moved to Ardlgass, Northern Ireland, when she retired in 1979, and there she died at age 70 of lung cancer... Father **Frank Stone**, whom we came to know as a religious broadcaster and who served on advisory boards for the CBC and CFTO-TV Toronto, died at age 80 after suffering a heart attack while using a snowblower to clear his driveway. A running gag we had was that 'us Stones are the rocks of broadcasting'...

At age 90, **George Burns** said, 'I'd rather make a hundred dollars in show business than earn a million making hats.' A generous man, he quietly donated \$1 million to build a new wing at the Hollywood Motion Picture Home for entertainers... In 1985, sales of stereo TV sets amounted to about 2% of the 1.3 million color sets sold... A commercial success despite its late time slot, the popular **Dave Letterman Late Night** show was signed for another season by NBC... **Brendan Thicke**, who worked with our son **Doug Stone** on the TV cartoon series *M.A.S.K.*, was given the lead voice role for the animated TV cartoon series *Dennis the Menace*... TV favorite **Hal Linden** has a degree in business administration from City College of New York, but opted for show biz—initially as a saxophonist and singer with the **Bobby Sherwood** and **Sammy Kaye** bands...

It is common knowledge that **Sammy Davis** has an artificial eye; did you know that **David Bowie** also has one—the result of being attacked while a lad in England?... Sportscaster **Jim Hunt** retired from CKEY to devote his time to his columns in the Sun newspapers... **Vicki Gabereau** is leaving her CBC Radio show to write and develop a TV show... **Dave Marsden**, who along with operations/programming responsibilities at CFNY-FM Toronto hosted a 4-hour show Saturday nights, turned the program over to **Chris Sheppard**... After 14 seasons, **Rae Brown** (Molly) has left CBC-TV's *The Beachcombers*... There's a strong Canadian presence in ABC-TV's mini-series, *Crossings*. It stars **Christopher Plummer**, and **Jan Rubes** has a major role... When he's not announcing for *Hockey Night in Canada*, **Bob Cole** is a partner in Shea Foods of Newfoundland, which caters to the Japanese taste for taipin fore (fish eggs used in hors d'oeuvres) and markets squid (which tuna fleets use for bait)... Voices-Voices is the imaginative name of a talent co-op formed by five of Canada's top announcers: **Richard Scott**, **Vita**

Now Available In Canada!

Shibasoku High Performance Color Monitors



CMM7
COLOR MONITOR



ShibaSoku



CMM11
COLOR MONITOR

Built as precision instruments by a precision instrument manufacturer.



Communications Inc.

2910 HALPERN N., ST-LAURENT, QUEBEC, CANADA H4S 1N7
TEL.: (514) 332-3430 • TELEX: 05-824840

Linder, Bernard Cowan, Les Rubie, Andy Halmay... Westwood One Canada has been set up by Selkirk and Westwood One of L.A. to distribute the U.S. firm's radio shows, plus Canadian programs. It's headed up by **John Rouker**, formerly with Major Market and Creative broadcast reps... No longer on TV daily, **Don Harron** is busy writing the story of his 40 years in show business and is working with **Norman Campbell** to sell a musical version of *Anne of Green Gables*...

CANADIAN WOMEN IN CABLE: Officers elected by the Ontario Chapter include **Elaine Lachappelle**, project manager, Beverly Briggs Consulting, as president; **Heather Gordon**, vp/finance, CUC Ltd., as vp; and **Verna Aziz**, controller, Maclean-Hunter Cable TV, as treasurer. (Editor's note: For news of the Vancouver Chapter, see Cable TV section elsewhere in this issue.)

The Ontario government appointed **Fraser Dougall**, president of CKPR/CJSD-FM Thunder Bay, to be chairman of the board of debt-plagued Minaki Lodge in northwestern Ontario... When CBC's *Radio Noon* marked its 10th anniversary, co-hosts **David Shatzky** and **Bruce Rogers** asked listeners to share their memories. **Gary Dunford** of the Sun particularly liked the poem by one listener, recalling the day Shatzky fell off his chair: *On Radio Noon, David Shatzky / Had to move when the mike when all flatsky / As he jumped to a chair / There wasn't one there / Poor Shatzky fell flat on his atzky...*

As a child in our native Glasgow, we were taught much about poet **Robert Burns**; a bow to CFMT-TV Toronto for its two-part special marking the birth (in 1759) of Scotland's folk hero... In some countries, the dominance of soccer as a sport (including TV exposure) is being upstaged: in West Germany, by tennis; in England, believe it or not, by darts... The British Columbia Association of Broadcasters will hold its 39th annual meeting in Vancouver, May 7-10. BCAB is followed by CCTA's annual Convention and Cablexpo, May 12-15, and later in the year, RTNDA Canada, CAB and WABE also meet in Vancouver... Back in the '50s, a promoter named **Red McCadden** brought a 16-year-old singer from Ottawa for me to interview and I had the pleasure of giving him his first on-air exposure in Toronto. His big hit was *Diana* and his name was **Paul Anka**. I read the other day that he has done this well: his Carmel, CA, home is up for sale at a reported \$5 million... Congratulations to CTV's vp/sports, **Johnny Esaw**, who won a Sports Federation of Canada media award... How fleeting is stardom: a toy shop in our mall was selling **Michael Jackson** dolls, '\$1.99 to clear'...

This is how the *Phil Stone Report* on **Dick Drew**, elsewhere in this issue of BT, came to be written. Dick is based in B.C., so I wrote and posed several questions for him to answer. A week later he called to say he was in Toronto, where his activities included delivering a stirring speech to the Canadian Information Processing Society—better known as CIPS (pronounced KIPS)—titled *The Entrepreneurial Spirit is Alive and Well, and Living in Canada*. Dick was going to the Broadcast Executives Society luncheon (at which **Mel Cooper** triumphantly gave EXPOsure to Expo '86); would I come as his guest? We agreed to meet in the lobby of the Sheraton Centre, where the luncheon was to be held. I arrived early with my tape recorder, and while waiting saw **Bob McKeown** (thanks for the beer, Bob) and **Norm Bonnell**. Dick and I then moved to a quiet part of the lobby to do the interview. (Not so unusual—my previous interview, with **Gary Miles**, was in a restaurant over breakfast, tape machine hovering over coffee and bran muffins.) At the luncheon we saw many familiar faces, including some I hadn't seen in many a moon: **Gordon Ferris** and **Frank Murray**—both looking truly great. At our table: **Fred Davis**, lovely **Linda Benoit**, gm of CJSB Ottawa, and **Dick Moody**, who took early retirement as president of Standard Broadcast Sales and has joined the Ontario Cable Association as executive director

(he succeeds another SBS pioneer, **Arnold Stinson**, who recently retired from the OCTA post). Others we saw included **Vic Menage, Michael Hind-Smith, Manny Brown, Marg Anthony, Michael Kennerly, Pat Hurley, Jim Adam, Bill Brown, Larry Lamb, Ross McCreath** and **Brian Minton**. Also **Gene Plouffe**, whose long-planned ethnic guide, invaluable to those developing the ethnic market, is now off the press... **Dick Moody** told a story about **Bobby Orr**. He was reminded of it when he saw me passing up the main course for buttered hard rolls—something I learned during years on the speaking circuit. Orr apparently did the same, and at one luncheon asked a young fellow who came by with rolls and butter for a few more pats of butter. The youngster replied, 'I only give two per person.' 'Do you know who I am?' asked the hockey great. 'No,' said the fellow, 'do you know who I am?' 'No, I don't,' said Orr. 'I'm the guy,' said the kid, 'who gives out the butter'...

Congratulations to the oft-honored **Johnny Lombardi**, who received a civic award of merit from the City of Toronto. Among Johnny's achievements: founding 'Italian Days' at Ontario Place and Canada's Wonderland... Now on the morning shift at CJFM Montreal is Toronto native **Bruce Kenyon**, previously at Peterborough and Edmonton... **Terry Williams** is now pd at CHUM Toronto—he's been with the CHUM Group for 12 years as pd at CJCH Halifax and CFRW Winnipeg. **Jim Waters** continues as operations manager... Anniversaries: CBC Radio's **Bob Kerr**, 25 years as host of *Off the Record*; **Bill McVean**, 20 years at CFRB... News from VU13: *Vancouver Live*, hosted by **Maria LeRose** and **Wayne Cox**, has a new one-hour format; **Joanna Piros**, absent for several months after the birth of son Matthew Dean, returned to *1st News*; and **Laurier LaPierre** has a new afternoon 'phone-in show, *On the Air*... Dates for ACA (Assn. of Canadian Advertisers) annual seminar are May 5-6 at the

TURNKEY BROADCAST FACILITIES

Documentation...

- CAD Plotting
- D-BASE 3 Wire Lists

Complete Technical Installation Services

IMMAD BROADCAST SERVICES
a division of AZCAR TECHNOLOGIES INC.

BUFFALO
(716) 858-1362
91-6428

TORONTO
(416) 465-2463
06-22634

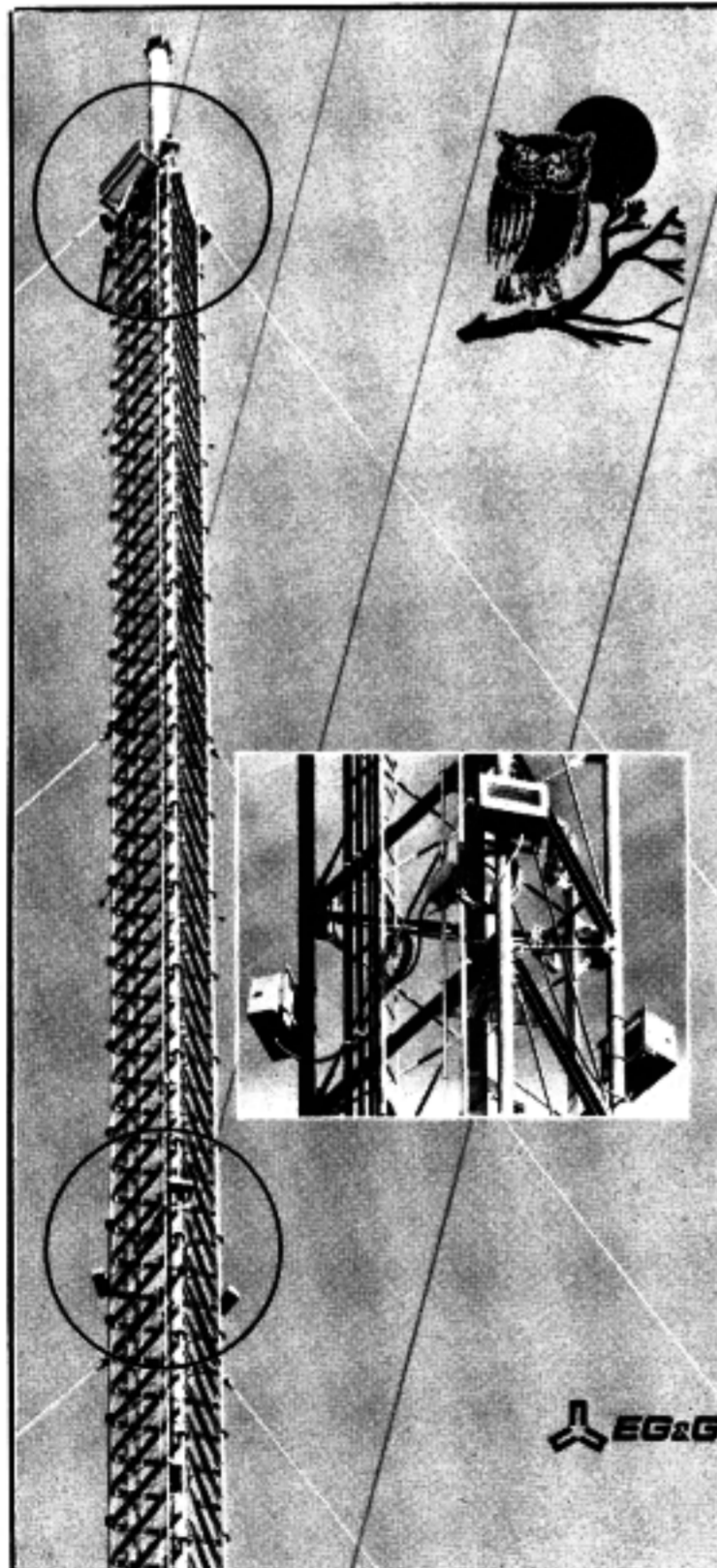
Metro Toronto Convention Centre; info: (416) 964-3805... CKO president **Stan Stewart** told *Ad-News* he's optimistic about the all-news network's future, with fall, 1985, sales up 36% and BBM audience figures up 43% from 1984... A new part-time member of the CRTC is New Brunswick chemical engineer **Normand Carrier**; formerly vp of Edmunston Cablevision and a cable TV consultant, he is now vice-rector of the Centre Universitaire St-Louis Maillet... *Who's Who in Canadian Film and Television*, a paperback edited by actress **Chapelle Jaffe** (Academy of Canadian Cinema, \$14.95), lists film/TV editors and directors; in 1987, it is planned to add other crafts, such as producers, writers, cinematographers, art directors and composers... Actor **Gino Marrocco** defeated incumbent **Bruce MacLeod** to become president of the 8,000-member Alliance of Canadian Cinema, TV-Radio Artists (ACTRA); new general secretary is **Garry Neil**, succeeding **Paul Siren**, who retired after 21 years of sterling service. The ACTRA TV awards, to be aired by CBC, will be on April 2nd at Toronto's Sheraton Centre... Condolences to **Joe Bowen**, radio voice of the Toronto Maple Leafs, whose mother passed away... Should viewers be told when a film is abridged for TV? **Warren Beatty** led a group to argue that view before the National Assn. of Television Program Executives (NATPE)...

Gary Parkhill recruited former media man **Geoff Scott**, now an M.P. in Ottawa, to be guest speaker for the 12th annual awards presentation of the Conestoga College radio/TV course... CKND-TV Winnipeg sold the TV rights of its 80-minute drama *Tramp at the Door* to CBC-TV, for broadcast this fall. The show won the prestigious International Iris Award at NATPE in New Orleans... At BBM: new members of the TV committee are Global gm **Rodger Hone**, named chairman, and **Dennis Fitzgerald** of CITY-TV; **Tony Viner** of CHFI-FM Toronto chairs

the Radio committee, whose members include **Dennis O'Neill** of CHNS Halifax... At Humber College, one thing I hammered into students was never to take an open bottle of 'pop' into the control room. I remembered well from my early days at CHUM the problems created when a young operator spilled 'Coke' on the board. I was reminded of this when, at Glendon College (where I take courses towards a B.A.) I read a sorrowful piece in the student paper: seems someone spilled some 'Coke' on the college station's 4-channel mixer and it was off the air for six days. More pitiful: the station was hard put to find the \$150 for repairs and rental of a stand-in; the money, wailed the article, would have to come from a budget already \$1,200 in arrears... The Penticton Herald front-paged a photo of **Gerald Pash**, vp of Okanagan Radio, receiving the 1985 Jaycee Good Citizen Award. Congratulations to Gerry, and also to **Doug Allen** of D.E.M. Allen & Associates of Winnipeg, named a member of the Order of Canada...

CJCL had itself a time when it upgraded its transmitter plant on Toronto Islands at a cost of \$1 million. Environmentalists claimed the construction work would upset the area's natural balance, so CJCL tried to minimize damage by transferring many plants to a special nursery, laying planks for vehicles to drive on, and replacing any greenery that was destroyed. Chief engineer **Gary Hooper** even painted the bottom 20 feet of the towers green to blend in with the surroundings—and that has to be unique in Canadian broadcasting!...

Pepsi is paying *Miami Vice* idol **Don Johnson** \$1 million to plug its product... France's first private TV network, La Cinq, has gone on-air with a heavy load of U.S. product, including (French-dubbed) *Saturday Night Fever*, *Star Trek*, *Bill Cosby*, *Murder She Wrote*. It's on-air 7:30-11:30 pm in Paris and 13 other cities...



If there's an OWL™ on your mast, it'll never be hit*

With E G & G StrobeGuard® Obstruction Warning Lights on your broadcast tower, you never have to worry about a hit, or even a near-miss. And with our long-life, high-output flash tubes you can virtually forget about replacement woes.

The money you'll save from not having to repaint your tower will likely pay for the StrobeGuard OWL system within the warranty period. And the light-weight stainless steel design of the new single-enclosure SS-125 adds only 85 pounds per unit to the tower, and greatly reduces wind loading.

Add to this such advantages as plug-in modular circuit construction, simple two-bolt adjustment, self-contained levelling device and

you've bought convenience as well as proven performance and reliability. Like all E G & G StrobeGuard OWL systems, the SS-125 handily meets or exceeds applicable FCC and FAA/DOD specifications.

Before you buy another tower lamp or gallon of paint, check out the new StrobeGuard OWL from E G & G. For complete information, call Tom Allain or circle reader service number.

**Since E G & G introduced high-intensity xenon arc obstruction warning lighting in 1968, no StrobeGuard-protected structure has ever been hit. OWL is a trademark for obstruction lighting systems manufactured by E G & G.*



ELECTRO-OPTICS

35 Congress Street, Salem, Massachusetts 01970, Tel: 617-745-3200 Tx: 681-7405
 Represented in Canada by LeBlanc and Royle Communications, Inc.
 514 Chartwell Rd., Oakville, ON, L6J 5C5, Tel: 416-844-1242 Tx: 610-495-2676

Ian Thompson was promoted to vp at The Sports Network, responsible for all program planning and acquisition. One recent TSN buy: exclusive international rights to the Silver Broom, the major curling event which takes place March 31-April 6... Mohawk College promoted **Warren Beck**, previously CHML's veteran news director, to co-ordinator of Broadcast Journalism... Appointments at CKDA Victoria include **Gerald Laing** to gm, **Scott Armstrong** to nd, and **Clive Kitchener** to news supervisor... We also learned from *BN Report*, so well edited by **Howard Christensen**, that **Robert Duffus** took over as nd at CHBC-TV Kelowna, replacing **Tom Walters**, now at CKVU-TV Vancouver... Former assistant nd at CFGO Ottawa, **Craig Steenburgh** became nd at CJET/Q-101 Smiths Falls, ON... Skeena Broadcasters new prexy is **Bryan Edwards**... BN will introduce professional development seminars at its 1986 regional meetings (see *Calendar*)... Sportscaster **Brad Diamond** won the John J. Mooney Award for his weekly *World of Horse Racing* on TSN... The program *Radio Church of God* was founded by **Herbert Armstrong**, who passed away recently at age 91. His son, **Garner Ted Armstrong** continues as a religious broadcaster...

Macleans-Hunter Research Bureau reveals that advertisers spent more than \$6.5 billion in Canadian media in 1985—up from \$5.6 billion in 1984. Daily newspapers got the largest share, \$1.5 billion; catalogs and direct mail, \$1.4 billion; TV, \$1 billion (17.1%); radio, \$572 million; followed by consumer magazines, outdoor, business papers, directories, farm papers and weekies. The total is expected to go to \$7 billion this year. It's estimated that 1985 advertising production costs ran about \$400 million... Sports minister **Otto Jelinek** has set up a federal marketing agency to increase corporate sponsorship of amateur sport and decrease public financing. CTV's **Johnny Esaw** is chairman... Termed a 'routine changing of the guard,' CBC-TV News put

new reporters in two prize bureaus: **Tom Kennedy** moves from Montreal to Peking; **Michael McIvor** from Toronto to Moscow... *Tempus Fugit*: The Muppets celebrated their 30th birthday... **Saul Rubinek**, the fine Canadian actor often seen on CBC, was signed by CBS-TV for at least four appearances on *The Equalizers*... At time of writing, the CRTC had received some 200 briefs about beer ads on TV... Among TV personalities on Blackwell's list of the 10 worst-dressed women: **Joan Collins** (*Dynasty*), **Michele Lee** and **Lisa Hartman** (*Knots Landing*), **Cybill Shepherd** (*Moonlighting*)... Pressure is growing for the print media to join the electronic media and ban tobacco advertising... *Hockey Night in Canada* on CBC now draws about 2 million viewers; *Sportsweekend*, 500,000... **Tracy Nelson**, seen in the **Bette Midler** film, *Down and Out in Beverly Hills*, is the daughter of the late **Ricky Nelson**... Sun TV columnist **Jim Slotek** is in broadcasting himself, appearing on CBC Radio's *The Entertainers* and a monthly phone-in show on Q-107 Toronto... **Nan Bowles de Gaspé Beaubien**, wife of Philippe, is a major personage in her own right: recently elected a director of Campbell Soup Co. Ltd., her other directorates include Telemedia, where she is vp/human resources, Orchestre Symphonique de Montréal, the Terry Fox Humanitarian Award committee, and the Canadian Association of Family Enterprises. She holds a doctorate in educational psychology from McGill University... Baton Broadcasting's latest quarterly report shows revenues at \$51.3 million (up from \$44.9 million a year earlier) and profit at \$5.8 million (up from \$5.3 million)... Included in the *Fortune* magazine list of America's 400 richest men: **Bob Hope**, reputed worth \$200 million, and **Gene Autry**, at \$150 million... And that's rich!

All you need to get into *Broadcast Beat* is a 34-cent stamp. Just send your news along to Phil Stone, c/o 2350 Bridletowne Circle, #1601, Scarborough, Ontario M1W 3E6.



TENNAPLEX SYSTEMS LTD.

21 Concourse Gate, Nepean, Ontario K2E 7S4 Telex 053 4962 Tel.: (613) 226-5870
452 Five Farms Lane, Timonium, Maryland 21093 Tel.: (301) 561-1999

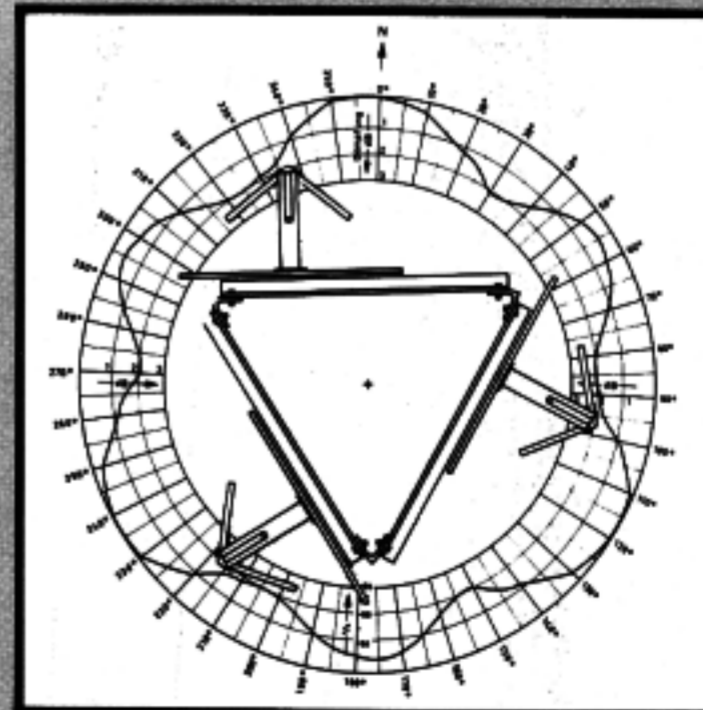
ATTENTION FM BROADCASTERS

Circle #136 on Reader Service Card

LOOK to Tennaplex for your hardware and state-of-the-art designs.



Antennas that are truly circularly polarized, and unaffected by the mounting structure or ice and snow without de-icers.



Combiners that are stable and reliable without controlled environments.



THE BASICS

by Bruce Dingwall

AM Stereo Wrap-Up

The choice is down to two systems: Kahn and Motorola

This will be the final installment of *The Basics* for now, and will hopefully complete the somewhat lengthy dissertation on AM Stereo. As outlined previously, the choice is down to two systems; Kahn Communications ISB (Independent Sidebands), and Motorola C-Quam (Compatible Quadrature).

Representatives from both companies have been extremely co-operative in helping simplify the theory of operation of their systems. Users have also played a part, particularly in the garnering of firsthand information about the idiosyncrasies of the systems.

What will be attempted here is concise descriptions of the two systems, their formulas and their differences. At the end, there will be some personal insights.

(Be advised that I will use my old trick of putting some of the mathematical formulas in the form of BASIC statements so that the typesetters at *Broadcast Technology* won't threaten to hang me by my typing thumbs.)

History Lesson

A surprising number of years ago, there were experiments in the area of AM Stereo by some well known manufacturers and networks. Philco developed an experimental AM stereo system in the late fifties and tested it on WABC New York. In the early sixties, CBS tried a similar system and conducted experiments at WCBS New York.

In each case, they tried to use some form of *pure* quadrature modulation, placing the L-R information on the angular modulated channel in a 90° relationship with the carrier. Good performance of a quadrature system required no more occupied bandwidth than conventional mono AM.

More fundamental, though, was a pro-

blem of monaural envelope compatibility. The sidebands produced by the angular modulation will be 90° out of phase with the sidebands produced by the amplitude modulated carrier, and so are said to be in quadrature with it.

If there is a condition of a left-only or right-only signal in this scheme of stereo modulation, both the conventional AM transmitter and the double sideband transmitter will be contributing sidebands to the output, and the result as detected by the conventional AM radio would be a distorted AM signal. The vector diagram of *Figure 1* illustrates this point.

In point of fact, when L and R were relatively similar in amplitude and frequency, there was little discernable distortion in the envelope. But, when L-R became 50% modulation, the envelope distortion due to the phase modulation was around 10%; in theory, as L-R approached 100%, the distortion would exceed 30%.

Various ideas were tried, including companding to reduce the amount of angular modulation for a given input signal. But, whenever a system employed pure quadrature in the angular modulation concept where 0 (the angular modulation factor) approached or was greater than 1 radian, there was distortion of the AM waveform. This was due to the fact that the conventional envelope detector produces the vector addition of the information contained in the normal AM and quadrature sidebands.

It is interesting to note that the various attempts to fix the envelope distortion problem all resulted in varying degrees of spectrum spreading. In some cases, it is a constant factor; in others, it increases with the amount of "stereo" information. Consequently, the manufacturers of the AM Stereo systems were faced with many limitations in trying to achieve good per-

formance with minimum adverse effect to the envelope.

The Systems in General

There are several points which are common to both systems: each system provides a box, usually called an Exciter, which serves to create the signals required for AM Stereo, from processed left (L) and right (R) channel audio.

The L+R information is derived and sent to the conventional mono audio input of the AM transmitter. The L+R information is derived by some form of quadrature relationship (as discussed in the preceding paragraphs), and sent to the transmitter as an angular modulated signal at the station's frequency. This waveform must be introduced in the place of the usual crystal reference signal.

Also, circuits are provided in each exciter which allow the introduction of time delay in either the L+R or the L-R signal, since the AM transmitters (particularly plate modulated ones), there is a difference in signal propagation time through the AF and RF circuits. These adjustable delays ensure that the L+R and L-R information arrive at the transmitter output at the same time, thereby avoiding an obvious source of distortion in the recovered L and R signals.

All of the "compatible" AM Stereo systems use some form of angular compression in order to make them work better. Therefore, there is some complimentary expansion that takes place in the receiver. This compression and expansion should take place in the L-R channel only to enhance the compatibility of the system to existing mono receivers.

Finally, each of the systems introduces a pilot tone into the L-R channel, at a very low level of modulation. This signal serves to trigger the stereo indication circuit in receivers, as well as identifying the system (ISB is 15 Hz, C-Quam is 25 Hz). Unlike FM, the pilot tone serves no other purpose at this time.

In both systems, the fundamental effort is to provide a stereo modulation scheme which will give good performance at the stereo receiver, while providing an AM signal which will be free from the distor-

D.E.M. ALLEN & ASSOCIATES LTD.

BROADCAST AND COMMUNICATIONS
CONSULTING ENGINEERS

130 Cree Crescent
Winnipeg, Manitoba
Canada R3J 3W1

Telephone: (204) 889-9202
Telex: 07-57411 ALLEN DEM WPG

FIGURE 1

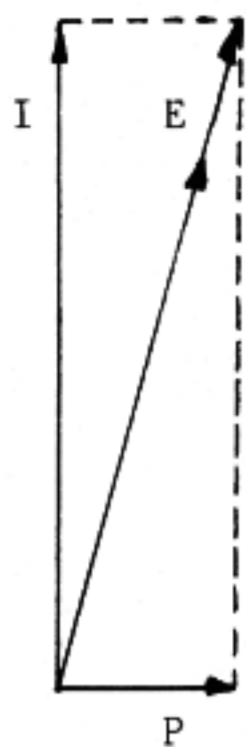


Figure 1: instantaneous representation of I= incident or mono modulation P= angular or phase modulation E= resultant error due to sideband energy from P modulation adding to envelope waveform

FIGURE 2

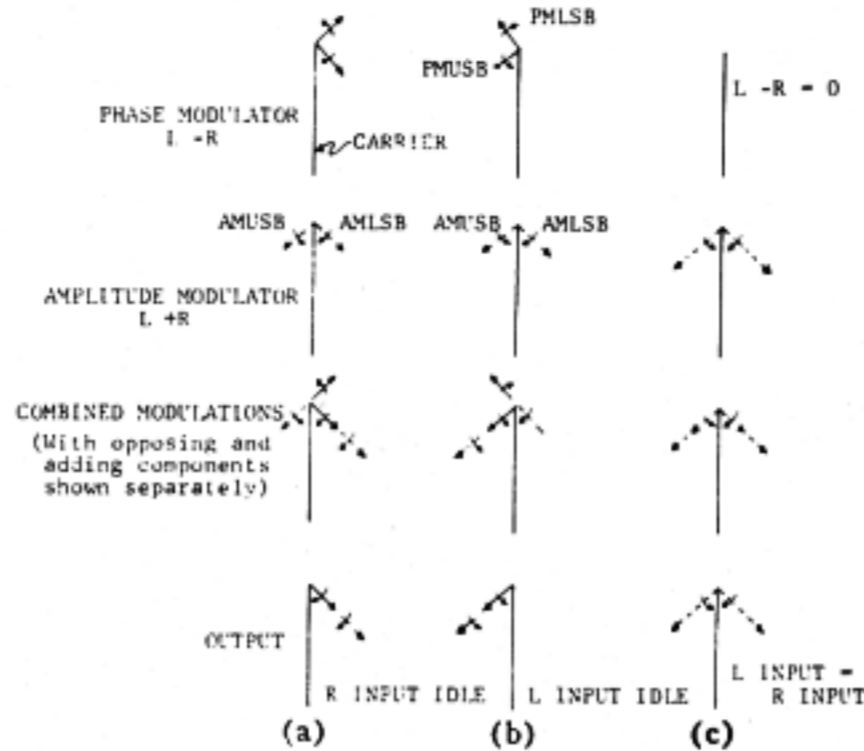


Figure 2: rotational vector representation of ISB modulation concept AM= amplitude modulated PM= phase modulated USB= upper sideband LSB= lower sideband

FIGURE 3

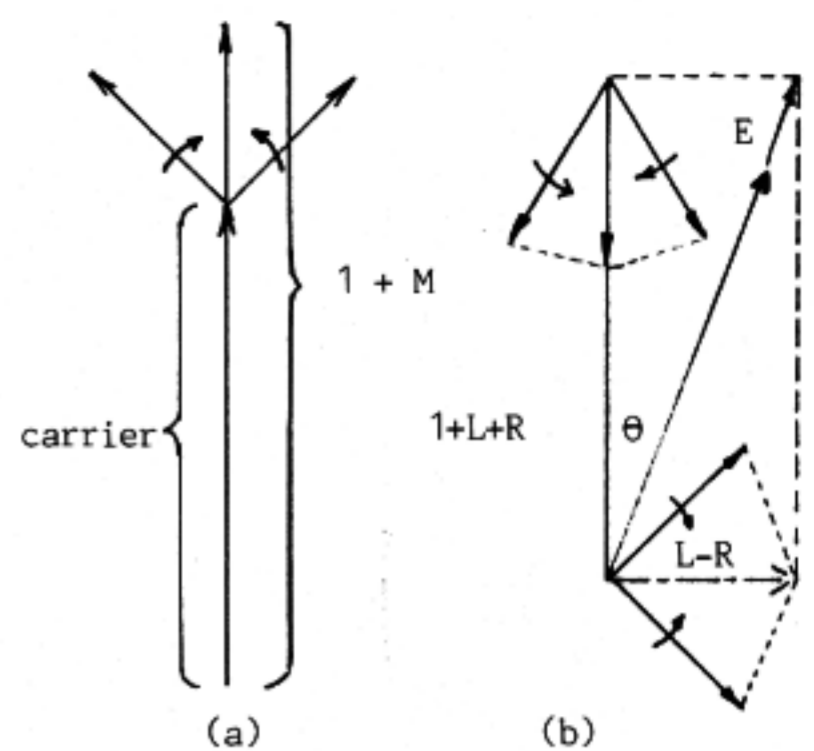


Figure 3: rotational vector representation of (a) mono modulation on carrier (1+M) (b) incident and angular modulation producing error in envelope waveform

tion effects discussed above at the conventional mono AM receiver. Each company goes about it in a slightly different manner.

The Kahn ISB AM Stereo System

The current Kahn exciter is the STR-84;

at present, all of the older STR-77 Exciters are being updated, and so this information will be pertinent to the newer model.

Much of the theory of the ISB principles for AM stereo is contained in the IEEE Transactions on Broadcasting, June 1971, pp 50-55, and it is from there, and the STR-84 manual, that the following infor-

mation was gleaned.

The L and R signals are summed, and fed through a phase equalizer which matches the phase characteristic of the L-R lowpass filter. The output of that equalizer feeds a -45° phase-difference circuit. The L-R signal is then run through a fixed time delay card, and into the audio input of the transmitter.

The L and R are also fed to a linear difference circuit; L-R is fed through a lowpass filter to a +45° phase shift network. This L-R signal then passes through a number of proprietary circuits, the purpose of which is to derive the special L-R components inherent to the Kahn system. The steps are as follows:

1. A relatively crude ISB stereo wave is produced by amplitude modulating an L-R modulated wave. The resultant has significant distortion and a high level of second order sideband component, which is undesirable. This product will be called Mod Pt 1.
2. This signal is then demodulated using a standard Kahn/Hazeltine receiver circuit to produce an L-R audio waveform which still has significant distortion. This will be called Product 1.
3. By combining the original undistorted L-R audio waveform fed to the first phase modulator with the product of the above demodulation, a correction waveform is produced. This waveform has distortion components which are out of phase with the audio component Product 1.
4. This corrected waveform is then used in a second phase modulator, to produce what will be called Mod 2.
5. The Mod 2 product is amplitude modulated to produce a relatively low distortion AM stereo waveform at an intermediate frequency.
6. This is then demodulated with a second

PRODUCTS & SERVICES

- | | |
|----------------------------|---|
| GUYED MASTS | 10 inch to 12 foot face widths-heights to 2300 feet |
| SELF-SUPPORT TOWERS | Light Duty VHF up to Heavy Duty-all height ranges |
| ANCILLARY PRODUCTS | <ul style="list-style-type: none"> • Flexible and Rigid Coaxial Transmission Lines • Antennas & Combiners • Grounding Devices • Strobe Lights • Coaxial Switches • Connectors • Dehydrators • Pneumatic Telescoping Masts |
| SERVICES | <ul style="list-style-type: none"> • Design and Engineering • Site Civil Work • Installation of Towers, Masts, Antennas and Lines • RF Testing • Installation and Commissioning of Transmitters • Maintenance and Repairs • Project Management • Turnkey Projects |

LeBlanc & Royle offers these and other products and services related to Broadcast, Telecommunication, Government and Civil Communications Systems. Ask us for full details.



**LeBLANC & ROYLE
TELCOM INC.**

"Much more than Towers!"

514 Chartwell, P.O. Box 880
Oakville, Ontario L6J 5C5
(416)844-1242, Telex 06-982226
LR TOWERS OKVL.

VANCOUVER, EDMONTON, WINNIPEG, OAKVILLE, MONTREAL, TRURO, ST. JOHN'S

standard Kahn/Hazeltine receiver circuit to derive a relatively low distortion L-R audio waveform.

7. This becomes a feedback signal to the earlier stages, and reduces the overall distortion to less than 0.6%.

8. This corrected and stabilized signal is then fed to a third phase modulator at station frequency.

And that, from Leonard Kahn's own typewriter, is the way the STR-84 functions, and how the unique ISB signal for the Kahn Stereo system is produced.

In addition to the circuits described above, the L-R signal passes through an adjustable delay network, which functions to provide a degree of compensation for the difference in propagation times through the RF and AF section of the transmitter.

The product is an angular modulated waveform at station frequency. It is important to note that there is still a 90° quadrature relationship between the L+R and L-R components, but that in this case, L+R is retarded 45° while L-R is advanced 45°. This has the unique property of placing the L information in the lower sideband and the R information in the upper sideband. (See the rotational vector diagrams of Figure 2.)

The equation for the resulting signals is as follows; the system is characterized as being based on an arcsin function. Notice the structure of the θ equation.

$$(1+L+R) \cos(\omega_c t + \theta),$$

where $\theta =$

$$\text{ARCSIN} \left(\frac{(L-R) * (1+(L+R)/2)}{(1+L+R)} \right)$$

At the present time, the receiver circuit used by Sony (described in *The Basics*, Sept/Oct/85, page 80), is "a close to correct" demodulation of the ISB signal. At this time, however, Kahn/Hazeltine are working on a more accurate chip set for their signal.

At the receiver end, the demodulator provides inverse modulation by a factor of .52; i.e. $((1 + .52) * (L+R)) * \sin(\omega_c t)$ to recover the L-R.

One of the interesting things about this process is, given an unlimited number of sideband products, the results are spectacular. With limited sidebands as required to meet the FCC specs, it's still darn good!

And one cute circuit, which I saw in an actual operating STR-84, is a sideband asymmetry compensation circuit. With it, a station can tidy up antenna problems as the first step in installing an STR-84. In fact, one user linked the inherent benefit this provided of improving the mono signal as part of preparing for ISB AM Stereo.

Obviously, Leonard Kahn put a great deal of thought, experimentation and user feedback into the STR-84 to overcome the problems of the STR-77. The people I talked to think it's great, because the setup is simple and the performance level easily

maintained.

The Motorola C-QUAM System

The Compatible Quadrature System for AM was developed by Motorola in response to the need for a system which possessed the near-ideal characteristics of the quadrature system, but one in which the envelope was compatible with existing receivers. Motorola extracts the angular modulation component of a full quadrature signal and transmits that as the stereo information.

It was found that there was a factor in pure quadrature principles which could be applied to reduce the amount of angular modulation required to give satisfactory stereo performance. In Figure 3, the resultant error of the amplitude and angular modulation sideband addition is shown. However, between the normal (incident) AM (I) vector, and the angular modulation (Q) vector, there is an angle, θ

$$\cos \theta =$$

$$(1+L+R) / \text{SQRT}((1+L+R)^2 + (L-R)^2)$$

Then they proceed to show that if the quadrature envelope is multiplied by the cosine of the angle, the envelope distortion is completely removed and the radiated envelope is independent of θ and identical to the sum signal. At the same time, the phase angle of the radiated signal remains unchanged, and the 1+L+R and L-R sideband pairs are still separable by quadrature synchronous detection.

As a result, they came up with a system where a usable (compatible) envelope could be created by multiplying the envelope by $\cos \theta$, to remove the envelope distortion components. The formula is expressed as

$$E = (1+L+R) * \cos(\omega_c t + \theta)$$

$$\text{where, } \theta = \text{ARCTAN} \left(\frac{(L-R)}{(1+L+R)} \right)$$

Look familiar? $(L-R)/(1+L+R)$ is what I call the magic term in the C-Quam system, because it keeps popping up in very important places.

In this quadrature signal, each component (in-phase and quadrature) has been separately modified by the cosine of angle θ to produce a compatible envelope.

The stereo signal still contains an in-phase component modulated by the sum signal, and recoverable by synchronous detection, and a quadrature term containing the difference signal, recoverable independently of the in-phase (sum) signal.

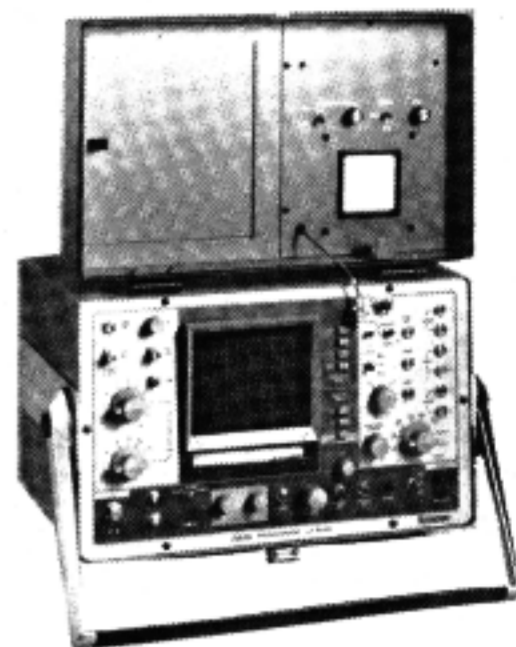
In the actual process of modulation in the exciter, the L+R is derived as explained earlier. The angular modulation is a little more tricky than simple quadrature. The following components are summed:

1. carrier frequency;
2. I (incident) sidebands in phase with the carrier, produced by a suppressed carrier, DSB modulator, modulator by L+R (modified);

Texscan

Communications Inc.

PORTABLE SPECTRUM ANALYZER



Test Equipment

Spectrum Analyzers
Sweep Generators
Tracking Generators
Time Domain Reflectometer
Signal Level Meters (75 ohm)
X-Y Monitor

RF COMPONENTS



Attenuators

Fixed Pads & Terminations
Rotary & Switchable
Programmable

Filters

Band Pass & Low Pass
Tunable Band Pass
Channel Filters

CHARACTER GENERATOR/GENLOCK



Character Generation Equipment
Title/Video Production Equipment
Automatic Ad Insertion Equipment
VCR Playback Controller

MONTREAL 335-0152 TORONTO 674-1525 EDMONTON 478-5803

Circle #148 on Reader Service Card

3. Q (Quam) sidebands, 90° out of phase with the carrier, produced by another suppressed carrier, DSB modulator, modulated by L-R (modified).

For the I and Q factors, the modifier is $\cos \theta$, where θ is the angle which exists between the real I and Q terms (vector diagram, Figure 1). Much of the circuitry in the C-Quam exciter is taken up with deriving this angular factor and applying it.

"The output of the summing network is passed through a limiter which strips away the incompatible AM components from the signal, and leaves only the phase modulation sidebands. This is not the same as the simple output of the "Q" modulator, because the addition of the "I" and "Q" balanced modulators produced phase shifting not present in the "Q" modulator alone." (from *Introduction to the C-Quam AM Stereo System*).

As well, there are the required adjustable delays, and equalization circuits which serve a purpose similar to the Kahn sideband asymmetry corrector. Since good stereo performance is dependent on flat sidebands, if you can't flatten them, then equalize to correct their effects!

In the receiver, L+R and the angular modulated term are detected. The angular modulated portion of the signal is then turned back into pure quadrature by dividing it by the cosine of the received carrier angular modulation. The I term in

the angular modulated channel is used to produce higher accuracy in the $\cos \theta$ derivation then would be possible if L+R was the I reference.

Some anomalies about the system. There is a practical limit at the receiver of 70% single channel modulation for a good reason. In the decode process, as single channel modulation exceeds 70%, θ approaches 45°, the value of cosine θ becomes quite large. Its effect in the decoder is to bring up noise by virtue of the high values of amplification that will result as $\cos \theta$ increases.

It should be pointed out, though, that the limits of angular modulation in the C-Quam system are + and -45° for 100% L-R modulation. This results in a manageable amount of spectrum spreading. There is also a non-linearity in the angular modulation under single-channel conditions; e.g. 50% in the right channel results in an angular swing of +45° and -15.4°. In essence, C-Quam trades a small reduction in S/N for this manageable amount of spectrum spreading.

Motorola have some interesting philosophies about these percentages of modulation: 70% L and 70% R means 140% L+R modulation; seems pretty reasonable. The process will actually work right up to 95% single channel modulation with laboratory grade decoders.

This decode limitation, and one of

blending the channels when the interference exceeds 10% of the signal level, will be addressed in a new version of the C-Quam decoder chip currently under development. As well, many other performance options will be available on that chip, for receiver manufacturers to use as they require.

On the question of what happens in the event of envelope pinchoff, both manufacturers agree that when this occurs, there is probably no L-R information to be recovered. Nonetheless, it should be avoided; good engineering practice.

Personal Insights

Never in my experience in radio broadcasting have I seen an issue so split in the community, and so incense participants during discussions, than has been the case with AM Stereo. Many of the broadcasters in Canada and the U.S. remain on the sidelines, refusing to become involved until it is settled by others with either the money, or the pioneer spirit, to become part of the fray.

The progression has been interesting. Hamilton, Ontario, with a population of 350,000 and three AM stations, was I believe, the first city where every AM station was stereo; two motorola and one Kahn. Toronto, with a population over 2,000,000, and where one would expect the decision to have been made for Canada, still sees less than half the AM stations in stereo; those are evenly split Kahn and Motorola.

Unfortunately, unless a body like the DOC makes a statement for Canada through their AM Stereo committee, favoring one system or the other (like the Australians did), this whole thing is going to perpetuate confusion and hard feelings in the Am radio audience. No matter how much a listener would want to be a part of AM Stereo, they won't make the commitment to single system equipment.

Obviously the way to go right now, if the marketplace decision is going to have any merit at all, is true, accurate two-system receivers. And that's not about to happen in the near future it would appear. Certainly Leonard Kahn is pushing for it, but he has a long way to go.

Neither system is perfect; both proponents have admitted that to me. So what is the solution? Is it possible that eventually we will see a second generation AM Stereo system which successfully address the problems inherent in the existing two systems, and results in the ultimate system?

Bruce Dingwall, C.E.T., specializes in studio and transmission work at Ontario radio stations and is also secretary/treasurer of CCBE. Readers' questions or comments may be sent c/o BT, Box 420, Bolton, Ontario LOP 1A0.

Continental's top performing 20 kW FM Transmitter speaks for a station you know*



Reliability and proven performance make Continental's 816R-2A compact FM transmitter a winner. Crisp clear signal, high fidelity, good stereo separation, very low noise and distortion, excellent frequency stability, simple installation, low power consumption make it a great

WKLO	WPOC	WHFB
WIAC	WVOC	KBUF
WBYU	WWNO	WTPI
KSCB	WBYG	WDJQ
KVTT	WGER	CKDS
WHTC	WZPR	KMNT
WIGL	KNFO	KELT
KFXE	KQDJ	KOAC
WLPX	WITL	

*Partial list

investment. Combine with duplicate 816R-2A to get 40 kW output. For brochure, call (214) 381-7161 Continental Electronics Division, Varian Associates, Inc. PO Box 270879 Dallas, Texas 75227. © 1985 Continental Electronics/6008

SEE US AT NAB
Booth #3200



Continental Electronics
A Division of Varian Associates, Inc.



varian

NEW: TV Stereo Aural Modulation Monitor

The Broadcast Television Systems Committee (BTSC) of the Electronics Industries Association has established a set of parameters relating to the implementation of TV Stereo which ensures compatibility with conventional mono receivers, provides adequate suppression of intermodulation products, etc...

The requirements for precision in setting up the various signals (i.e. left and right channels programme audio, PRO and SAP channels) are quite stringent, as a consequence of which, the BTSC recommendations include a requirement that the monitoring capabilities include total modulation, stereo channel modulation, left channel, right channel, phase lock indication of the pilot to the horizontal sync, and the presence of pilot carrier.



In addition, the BTSC recommends that the measurement capabilities should include frequency response of the total broadband stereo channel, main channel, left channel, right channel, stereo separation pilot inspection, subcarrier suppression level, crosstalk, intercarrier noise due to ICPM, pilot interference level, AM noise and multi path detection.

The fact is that the adjustment and settings of the interrelationships between the various modulating signals is very critical, calling for the capability of measuring and monitoring a large number of parameters with great accuracy. All of this is exactly what is accomplished by the TFT model 850, BTSC Aural Modulation Monitor—and it's all done in a single box, with the required accuracy.

If you are going stereo and don't want to risk your audience having buzzes and birdies in the audio, you will need a TFT 850. **Circle #209 on Reader Service Card**

Microwave Links for TV Broadcasters

M/A-COM is the world's leading supplier of Microwave links for video signal transmission, and this reputation is backed by a wide range of products to suit virtually any requirement in the TV Broadcast market. The applications include:

- Point to point transmission
- Multi hop systems, remodulating and heterodyne
- Portable ENG
- Helicopter Newsgathering
- Multi signal systems, to include data, message, alarms and orderwire

Your MSC representative will be pleased to discuss how we can assist with your requirements, from the supply of equipment, through turnkey services and project responsibility associated with a complete system.

Circle #210 on Reader Service Card

Optimod—A Complete TV-Stereo System

Orban's long association with the broadcasting industry was founded on the design and manufacture of "leading edge" audio signal processing. The company has retained its position as leader in its field by "designing in" simplicity of operation, product excellence through quality control, and intensive customer support. Thus, it's no accident that the TV Optimod system is the most widely used today, by TV stations broadcasting in stereo.

The complete Orban equipment compliment for the BTSC Television Stereo System comprises:

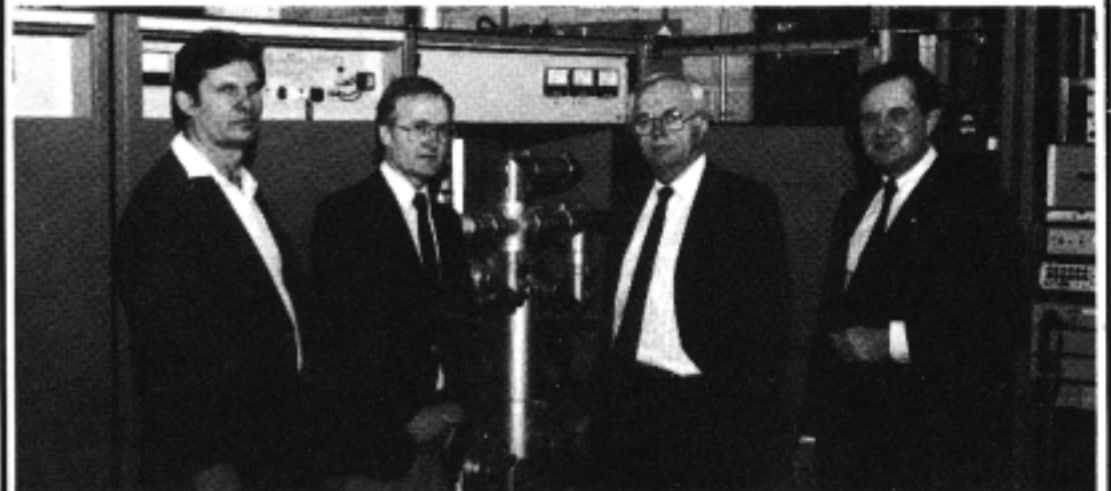
- 1) An 8182A Stereo Audio Processor
- 2) An 8182A/SG Stereo Generator Chassis (with optional plug-in Professional Channel Option).
- 3) An 8182A/SAP, Second Audio Programme Generator (if desired).

The 8182A can be used alone, to immediately substantially improve the quality of a TV station's broadcast audio, and many stations are already doing this. The stereo generator (with optional Pro Channel), and the 8182A/SAP unit can easily be retroactively added to the 8182A when the station decides to go stereo.

If you want to go stereo, or simply improve your TV audio signal, contact your MSC rep for information and user references. We'd be pleased to discuss your requirements and arrange an evaluation of Orban products at your facility.

Circle #211 on Reader Service Card

CKND Installs NEC 25 kW TV Tx



Seen with new NEC tx at CKND-TV are (from left) Ed Barisoff, Robert Hall, Don Brinton, president, and Peter Liba, manager.

On Sept. 9/85, CKND-TV Winnipeg received its new NEC 25 kW channel 9 transmitter, ordered to replace a 31-year-old workhorse. Delivery was right on schedule, and Ed Barisoff, assistant to the chief engineer, was impressed by way the crates had been packed—indicating a pride in the product that was evident later in every detail of the transmitter.

'Assembly was a breeze,' Ed commented, 'and when the unit was switched on, all meters read exactly what the factory test sheets indicated they should—no tweaking, no adjustment. And they've stayed precisely on factory settings.'

Chief engineer Bob Hall is particularly impressed that there have been 'no surprises.' Thanks to NEC's excellent manual, installation went flawlessly; 'from the time the transmitter was switched on, both technical performance and reliability have been extremely impressive.'

Circle #212 on Reader Service Card