

DOMINION OF CANADA

BRITISH COLUMBIA

ALBERTA

SASKATCHEWAN

MANITOBA

ONTARIO

QUEBEC

TORONTO

N.F.D.

P.E.I.

N.B.

N.S.



Toronto's downtown and harbour as seen from the bay.

THE ROGERS RADIO BROADCASTING CO. LTD.

CFRX—6970 Kc.—1,000 Watts.

CFRB—1010 Kc.—50,000 Watts.

37 Bloor St. West, Toronto, Ontario, Canada

The City of Toronto, with a population of over 900,000, is the capital of the Province of Ontario. The Province is famous for its holiday playgrounds, fishing, hunting, boating and camping. The heart of finance and industry.



M.C.

Dear Murray:

Thank you for your report on CFRB. It is appreciated.

Yours truly,
HARRY SEDGWICK,
President.

Mr. Murray C. Mann,
3702 South 17 th. St.,
Omaha 8,
Nebraska,
U.S.A.



THE LISTENER'S CHOICE **CFRB** IN THE HEART OF ONTARIO

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Toronto's downtown and harbour as seen from the bay.

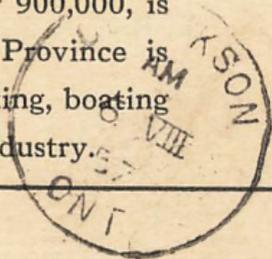
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Dear Mr. Mann:

This card verifies your reception of C F R X and, C F R B.

MR. MURRY MANN,
3702 So. 17,
OMAHA 8, NEBR.,
U.S.A.

Yours truly,
HARRY SEDGWICK,
President.

THE LISTENER'S CHOICE **CFRB** IN THE HEART OF ONTARIO



B8

EG
10/10

50E 96397

CFRB 1010

fibroform

This confirms your reception on

May 17 19 82

FROM

CFRB  **1010** 50,000 watts

CKFM  **99.9** 40,000 watts, H & V, in FM Stereo. Effective height of 1,380' from the CN Tower.

CFRX  **SHORT WAVE**
1,000 watts - 6.07 MHz (49 metre band)

Thank you for your Reception Report. We appreciate hearing from you.

G.M. for Clive Eastwood
Signed _____
Vice-President, Engineering



Mr. Carl Mann

416 Hanover Road S.W.

CEDAR RAPIDS, IOWA

52404

U.S.A.

CFRB's marine mobile cruises Lake Ontario in front of the CN Tower and Toronto skyline.

CFRB
LIMITED

2 St. Clair Avenue West,
Toronto M4V 1L6 Canada

CFRB·AM·1010

News Talk Radio



CFRX 6070

SHORTWAVE



TORONTO, CANADA

CFRX-CFRB QSL

Thank you for sending us your reception report
which we are pleased to confirm.

CFRX SHORTWAVE

6.070 MHz 49 metre band
Carrying CFRB's programs 24 hrs/day
1,000 watts - omni-directional antenna

CFRB AM 1010

1010 kHz mediumwave
50,000 watts - directional antenna

DATE: Nov 28/96

TIME: 4:55 pm - 5:20 pm EST

Signed: Steve Carney
Ontario DX Association

Thanks Carl
73

Official QSL Manager:

Ontario DX Association
P.O. Box 161, Station A
Willowdale, Ontario, Canada M2N 5S8
~~(905) 853-3169~~ Voice/Fax 416-293-8919
Internet: 73737.3453@compuserve.com
~~Listening Post BBS: (905) 841-6490~~
The DX-Change News Service: (416) 444-3526
VA30DX Repeater: 442.375+ (103.5 Hz T)
Send \$3.00 or 4 IRC's to receive a sample
of our monthly magazine.

Station Address:

CFRB Radio
2 St. Clair Ave. West
Toronto, Ontario, Canada M4V 1L6
Main Switchboard (416) 924-5711
CFRB Access Line (416) 872-CFRB
CFRB Newscentre (416) 924-6717
CFRB Talk Shows (416) 872-1010
Toll Free 1-800-561-CFRB
Fax (416) 323-6830

CFRB 1010

AM STEREO

CFRB

CFRB began broadcasting in 1927. The original transmitter site was Aurora, Ontario, and the approximate power was 15 kW. Tubes used in the first transmitters were manufactured by the Rogers vacuum tube company. Indeed, the name of the radio station reflects the Rogers involvement in radio broadcasting - Canada's First Rogers Batteryless.

In 1946 a new transmitter site was opened at Clarkson, Ontario (the present site), and was the first 50 kW DA-2 array in the British Commonwealth. The array was four 250' towers, fed by open-wire transmission lines from the phasing system within the main building. The transmitters were by RCA, a BT50-F and a BT10-F (50 kW and 10 kW). The normal operating power into the array (Day and Night patterns) was 50 kW.

In 1971, two new 550' towers were erected and the phasing equipment location was changed to the largest of the four field buildings. Construction planning was such that the technical staff was able to switch between the "old" array and the "new" array with minimal loss of air time, to facilitate adjustment of the tuning and phasing equipment for the new array (two towers were common to both arrays).

In 1981 the present facility was opened, utilizing the existing field equipment, but providing a completely new Main Building, with new 50 kW transmitters and control equipment. Again, planning was such that the cutover was made to the new building on April 6, 1981, with less than 10 seconds of lost air time.

The transmitters were built by Continental Electronics of Dallas, Texas, and are designated Model 317C-2. They are capable of a maximum output power of 61 kW at 100% modulation. The final amplifier stage uses two high power tetrode tubes connected in a high-efficiency, screen-modulated amplifier, known in the industry as the Weldon Linear. The transmitters are equipped with an automatic power cutback to 12.5 kW in the event of an antenna system fault.

The program material for CFRB is relayed to the transmitter site by two methods. The first is a mono, 450 MHz, microwave link. The second is a pair of matched stereo lines from 2 St. Clair Avenue West to the transmitter site. CFRB transmits in C-QUAM AM-stereo, which is the only type of AM-stereo system allowed in Canada. This system operates in a classic manner, with the L+R information amplitude modulating the carrier to the maximum of 1.0 radians, for 100% L-R. In the receiver, this information is recovered by conventional amplitude and phase detection methods, and added algebraically to produce the resultant L and R information. The math is: $(L+R) + (L-R) = 2L$; $-(L+R) - (L-R) = 2R$. (There are decoder chips available for this system.)

Control of the CFRB Transmitter Plant is done from the remote point of the studios, through a custom system, utilizing FSK methods, and manufactured by Uni-Tel. At the transmitter site, commands are interpreted by, and some indications are given back with, a CFRB-designed Plant Control System, based around a Struthers-Dunn Process Controller.

This microprocessor-based dedicated device does the necessary operations and status checks to permit (for example), a five step pattern change to be accomplished in about 310 milliseconds, with greater safeguards for the equipment than would be possible in a relay-based system of comparable size and cost. The controller also continuously investigates the status of certain equipment and sounds alarms if out-of-limits conditions exist.

In every part of the CFRB operation, redundancy and maintainability are key factors in the design of systems and in the choice of equipment. The result is an enviable record of mean air time between failures.

CFRX

CFRX began broadcasting in 1937. CFRX has always co-sited with CFRB, but has used a separate antenna system. The present CFRX array of two 50' vertical towers was originally configured for directional radiation, northwest. However, several years ago, at a time when there were problems with one of the driven elements, the configuration was changed to omni-directional, using the southern-most mast.

The original CFRX transmitter was designed and built by CFRB technical personnel at the first CFRB transmitter site in Aurora, Ontario. The power output of CFRX has always been 1000 watts, although in the latter years of the old transmitter, this was difficult to maintain.

Problems continued to appear in the operation and maintenance of the original homebuilt transmitter, with a resulting deterioration in audio quality. Early in 1983 the decision was made to purchase and install a new 1 kW transmitter for CFRX. The present transmitter was delivered in December of 1983 and was commissioned December 31. The new facility is located in a room next to the CFRB transmitters.

The transmitter was manufactured by Elcom-Bauer of Sacramento, California. The design is basically their Model 701B, with the tank circuit of the final stage redesigned and an RF driver stage added after the standard RF oscillator card. The transmitter is now designated a 701B-HF. It is a classic plate-modulated design and is capable of producing high levels of modulation, continuously, as is required for the 24-hour-a-day operation of CFRX.

The program material is derived from the same links as used for CFRB and is processed at the CFRX audio rack, using CRL processors. The programming is a simulcast of CFRB's, except for a CFRX ID that runs once an hour.

CFRX acknowledges all correct reception reports with a QSL. Most of these reports come from eastern Canada and the north-eastern United States. However, we have frequently received reports from the United Kingdom, Europe and the Scandinavian countries.

CFRB/CFRX QSLs have been issued by the Ontario DX Association since October 1, 1991.

CFRX

Toronto, Canada

6070 kHz

49 meter band

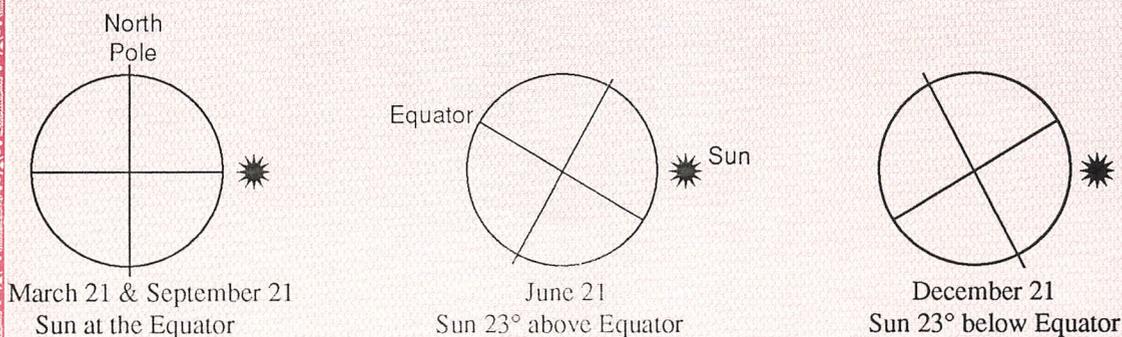
Verifying Reception By

CARL MANN

07:45 UTC, December 21 1991

1991 WINTER SOLSTICE QSL

Solstice : The time of year when the sun is at its greatest distance from the celestial equator, and seems to pause before returning on its course.



The Ontario DX Association, P.O. Box 161, Station A, Willowdale, Ontario M2N 5S8, Canada,
is the official QSL manager for CFRB/CFRX.

CFRB·AM·1010
News Talk Radio



Carl Mann
6711 South 139th Avenue Circle
Omaha
NEBRASKA
USA 68137.

68137/4007



2 ST. CLAIR AVENUE WEST • TORONTO, ONTARIO • M4V 1L6

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