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SUPPRESSION OF INDUCTIVE INTERFERENCE
THE CONTROL OF RADIO INTERFERENCE FROM TELEVISION RECEIVERS

TELECOMMUNICATION REGULATORY SERVICE

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On September 24, 1964, the Minister of Transport amended the Order Respecting the limits of Radio Frequency Noise made by Order of November 25, 1963, to control radio interference from television receivers.

The following extracts from the Radio Noise Limits Order apply:

ORDER RESPECTING THE LIMITS OF RADIO FREQUENCY NOISE

1. Short Title - This Order may be cited as the Radio Noise Limits Order.
2. Interpretation - In this Order:
 - (a) "Department" means the Department of Communications;
(s 100, c28, 1968-69)
 - (c) "Minister" means the Minister of Communications;
(s 100, c28, 1968-69)
 - (d) "Radio frequency noise" or "radio noise" means any electrical disturbance:
 - (i) produced by any mechanical, electrical or other device, line, system, apparatus or equipment, and
 - (ii) capable of being received by a radio receiving apparatus;
 - (e) "Television receiver" means a radio receiving apparatus intended for use by the general public for the reception of television broadcasting, including colour television.

"PART II"

Limits for Radio Noise from Television Receivers: (SOR 64/405)

8. This part applies to television receivers manufactured in Canada or imported into Canada on or after April 1, 1966. (SOR 64/405)

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9. Radio frequency noise produced by a television receiver at any frequency between 535 and 1610 kilocycles and conducted over the power supply lines of the television receiver shall not exceed:
- (a) 100 micro-volts (R.M.S.) if the television receiver is manufactured in Canada or imported into Canada before April 1, 1972, and
 - (b) 40 micro-volts (R.M.S.) if the television receiver is manufactured in Canada or imported into Canada on or after April 1, 1972. (SOR/67-407)
10. (1) A television receiver of each type or model to which this Part applies shall, at the time it is first manufactured in Canada or imported into Canada, be tested to determine that the radio frequency noise produced by it does not exceed the applicable radio frequency noise limit prescribed by section 9. (SOR/64-405)
- (2) Where any change is made in any type or model of television receiver that is liable to affect its electrical characteristics, including any major change in a metal cabinet or a change from a metal to a non-metal cabinet or vice versa, a sample of that changed type or model of television receiver shall be tested in order to determine that the radio frequency noise produced by it does not exceed the applicable radio frequency noise limit prescribed by section 9. (SOR/64-405)
- (3) A television receiver of each type or model tested pursuant to subsection (1) or (2) shall be taken from the production line at reasonable intervals and tested to determine whether that type or model of television receiver continues to comply with the applicable limit for radio frequency noise prescribed by section 9. (SOR/64-405)
11. (1) Subject to section 12, all tests to determine radio frequency noise shall be made as follows:
- (a) a signal shall be fed to the television receiver through a resistive pad that has an attenuation of 20 decibels and provides a path of less than 420 ohms impedance to ground from each terminal to which the receiver is connected;
 - (b) the power supply to the television receiver shall pass through a power line impedance stabilizing network consisting of an inductor of 5 microhenries in series with each power supply conductor, with a by-pass capacitor of 1 microfarad connected in series with a resistance of 1 ohm from each power supply conductor to ground on the supply side of the inductors;

- (c) the radio noise level (voltage) shall be measured on the receiver side of the stabilizing network between each power supply conductor and ground;
 - (d) the user operating controls of the television receiver shall be adjusted for maximum conducted radio noise; and
 - (e) the tests shall be made in a screened enclosure with the power line impedance stabilizing network mounted on and solidly grounded to the floor of the enclosure.
- (2) The voltage measuring instrument shall present a 50 ohm resistive load to the circuit and shall be connected via a coupling capacitor between the power supply conductor and solid ground, the other supply conductor being also connected via another coupling capacitor and a 50 ohm resistance to ground.
- (3) The coupling capacitor shall each have a value of not less than 1/10 microfarad.
- (4) The measurements shall be in micro-volts (R.M.S.) and the measuring set-up shall be arranged and measurements made in accordance with good engineering practice.
12. Where a television receiver is to be tested pursuant to subsection (3) of section 10,
- (a) if the measured radio noise of the original receiver was within the limits specified in section 9 by a margin of at least 4 decibels; and
 - (b) if any changes in styling or other changes in non-metallic cabinets are changes that have no effect on the electrical characteristics of the receiver or its antenna,
- continued compliance with section 9 may be ascertained by using a broadcasting or communications receiver to compare aurally or by other means the actual interference picked up from the receiver used in making the original measurements with that produced under similar conditions by the receiver being tested.
13. Records of measurements and tests made to ascertain compliance with this Part shall be retained for at least three years and shall upon the request of the Director, Telecommunications and Electronics Branch of the Department, be made available to him.

* Since 1970 Director General Telecommunications Regulation

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Explanatory Note

For the purpose of applying the testing requirements of section 11, the procedure as outlined in the IRE standards on radio interference, method of measurement of conducted interference output to the power line from FM and Television Receivers, published in the September 1961 issue of IRE, is appropriate.