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ISSUE 1

TELECOMMUNICATIONS
REGULATION CIRCULAR

GUIDE FOR CANDIDATES
TAKING EXAMINATIONS FOR

RADIOTELEPHONE OPERATOR'S
GENERAL CERTIFICATE

RADIOTELEPHONE OPERATOR'S
RESTRICTED CERTIFICATE

TELECOMMUNICATIONS REGULATION CIRCULARS ARE ISSUED FROM TIME TO TIME TO PROVIDE INFORMATION TO THOSE ENGAGED IN TELECOMMUNICATIONS IN CANADA. THE CONTENT OF THESE CIRCULARS IS SUBJECT TO CHANGE AT ANY TIME IN KEEPING WITH NEW DEVELOPMENTS.

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CIRCULAIRE DE LA
RÉGLEMENTATION DES
TÉLÉCOMMUNICATIONS

GUIDE À L'INTENTION DES
CANDIDATS EN VUE D'OBTENIR UN

CERTIFICAT GÉNÉRAL
DE RADIOTÉLÉPHONISTE

CERTIFICAT RESTREINT
DE RADIOTÉLÉPHONISTE

LES CIRCULAIRES DE LA DIRECTION DE LA RÉGLEMENTATION DES TÉLÉCOMMUNICATIONS SONT PUBLIÉES EN VUE DE SERVIR DE GUIDE À CEUX QUI S'OCCUPENT DES TÉLÉCOMMUNICATIONS AU CANADA. LES RENSEIGNEMENTS CONTENUS DANS CES CIRCULAIRES PEUVENT ÊTRE MODIFIÉS EN TOUT TEMPS.

MISE EN VIGUEUR: 1^{er} AVRIL, 1979

SERVICE DE LA RÉGLEMENTATION
DES TÉLÉCOMMUNICATIONS

CANADIAN PROFESSIONAL RADIOCOMMUNICATION OPERATORS'
CERTIFICATES

TABLE OF CONTENTS

	<u>PARAGRAPH</u>	<u>PAGE</u>
General.....	1.	
Application.....	1.1	1
Nationality.....	1.2	1
Documentation.....	1.3	2
Pass Marks.....	2.	2
Re-Examination.....	2.2	3
Examination Fees.....	3.	3
Physical Fitness.....	4.	3
Radiotelephone Operator's General Certificate	5.	3
Classes of Certificates.....	5.1	3
Examinations.....	6.	5
Technical.....	6.1	5
Operating Procedures.....	6.2	5
Regulations.....	6.3	5
Practical.....	6.4	5
Computation of Tolls.....	6.5	6
Radiotelephone Operator's Restricted		
Certificate.....	7.	6
Examination.....	8.	7
Practical.....	8.1	7
Operating Procedures.....	8.2	7
Domestic Regulations.....	8.3	7
Language Requirement.....	9.	8
Study Guides.....	10.	8
Procedures	10.1	8
Regulations	10.2	8
Traffic (Computation of Tolls)	10.3	8
Technical	10.4	9

CANADIAN PROFESSIONAL RADIOCOMMUNICATION
OPERATOR'S CERTIFICATES

- General 1. This circular sets out the conditions to be satisfied in order to obtain a
- a) Radiotelephone Operator's General Certificate (Aeronautical), Radiotelephone Operator's General Certificate (Maritime), Radiotelephone Operator's General Certificate (Land); and
 - b) Radiotelephone Operator's Restricted Certificate (Aeronautical), Radiotelephone Operator's Restricted Certificate (Maritime), Radiotelephone Operator's Restricted Certificate (Land).

GENERAL EXAMINATION REQUIREMENTS

- Application 1.1 Applicants wishing to be examined for a certificate should apply to the nearest Department of Communications District Office.
- Nationality 1.2 An applicant for a Radiotelephone Operator's General (ROG) or a Radiotelephone Operator's Restricted (ROR) Certificate examination must be either a Canadian citizen or a landed immigrant. However, if the applicant is neither of the above but is the holder of a valid pilot's licence or permit under the Aeronautics Act, he may apply for an ROR Aeronautical Certificate examination provided:
- (a) he is employed as a pilot flying within the territorial limits of Canada;
 - (b) his main function or duty is to pilot the aircraft and the operation of the radio is merely complementary thereto; and
 - (c) the country of which he is citizen grants similar privileges to Canadians desiring to be pilots in that country on aircraft registered therein.

Note: A citizen of the United States licensed as an aircraft pilot and radio operator by the Government of the United States may operate in Canada any radio station licensed by the Minister and installed aboard an aircraft registered in Canada if such operation is complementary to his function or duties as a pilot.

1.3 Candidates may be asked to bring to the examination the following documentation:

Documentation	Photograph	- one passport size
	Nationality Status	- Birth Certificate, Certificate of Canadian Citizenship, Canadian Immigration Identification card, or Declaration of Nationality Status (available at departmental offices)

2. Pass Marks for the examinations are:

	<u>Examination</u>	<u>Pass Marks</u>
Pass Marks	Technical	70%
	Practical	70%
	Regulations and Procedures	70%
	Computation of tolls	70%

2.1 A candidate who fails to obtain a pass mark may not be re-examined for one month.

- Re-Examination 2.2 A candidate who allows a period of twelve months to elapse before being re-examined shall be required to take the complete examination.
- Examination Fees 3. The examination and re-examination fee for the Radiotelephone Operator's General Certificate (Aeronautical, Maritime or Land) is \$10.00.
- There is no examination fee for a Radiotelephone Operator's Restricted Certificate (Aeronautical, Maritime or Land).
- Physical Fitness 4. A candidate's hearing should not be less than 75 percent of normal in each ear as measured on the Department's standard audiometer. However, the Minister may permit the examination of a candidate for an ROR Certificate whose hearing is less than 75 percent of normal in one ear. Where 75 percent of normal hearing is obtained with the aid of a hearing aid, the Radiotelephone Operator's Restricted Certificate issued shall be endorsed to indicate that the holder is authorized to act as a radio operator on a station where communications may involve the safety of life, only when another operator whose certificate is not similarly endorsed is on duty at the same time.
- 4.1 An examiner may request that a candidate provide a medical certificate attesting to his fitness.
5. RADIOTELEPHONE OPERATOR'S GENERAL CERTIFICATE (ROG)
- 5.1 Three classes of Radiotelephone Operator's General Certificates are issued by the Minister:
- ROG (Aeronautical) - mobile stations installed in aircraft or land stations performing an aeronautical mobile service.

- ROG (Maritime) - ship or coast stations
- ROG (Land) - Land or mobile stations except a land station performing an aeronautical mobile service or a mobile station installed in an aircraft.

5.2 The holder of a ROG Certificate may act as a radiotelephone operator on stations fitted only with radiotelephone equipment where the power in the antenna of the unmodulated carrier wave does not exceed

- a) Ship, Coast Station, Aircraft or Land Station performing an Aeronautical Mobile Service 100 watts maximum or * 500 watts maximum
- b) Other land or mobile stations 250 watts maximum or * in excess of 250 watts

* provided the operation of the transmitter requires only the use of simple external switching devices excluding all manual adjustment of frequency determining elements.

5.3 The holder of a Radiotelephone Operator's General Certificate (Aeronautical, Maritime or Land) may have the certificate endorsed for one or both of the other services by passing the examination requirements and paying the examination fee. Credit for

passing the common elements of the examination will be given to candidates applying for such endorsement.

- Examinations 6. The examination for the Radiotelephone Operator's General Certificate (Aeronautical and Land) consists of four sections, and the Radiotelephone Operator's General Certificate (Maritime) of five sections.
- Technical 6.1 Section (1) consists of one written paper. Candidates shall be required to answer questions on elementary principles of electricity and radiotelephony as they relate to A.C. and D.C. circuitry, electrical measuring instruments, vacuum tube and transistor theory, receiver and transmitter circuitry, modulation equipment, power supplies, propagation, interference and suppression.
- Operating Procedures 6.2 Section (2) consists of one written paper. Candidates shall be required to answer questions on operating procedures, calling, answering, identifying, testing, message handling using phonetic alphabet and microphone techniques as applicable to the aeronautical, maritime and land services.
- Regulations 6.3 Section (3) consists of one written paper. Candidates shall be required to answer questions on the international regulations as applicable to the safety of life (distress, urgency and safety) and Radio Act and Regulations made thereunder.
- Practical 6.4 Section (4) consists of an oral and practical examination on the operation, adjustment and simple maintenance of
- a) modern maritime mobile radio-telephone equipment, accessory apparatus and lifeboat portable apparatus;

- b) modern radiotelephone equipment and accessory apparatus installed in aircraft and land stations performing an aeronautical mobile service; or
- c) modern radiotelephone equipment and accessory apparatus installed in land and land mobile stations.

Computation
of tolls
(Maritime
Service)

6.5 Section (5) consists of one written paper. The candidate shall be required to count words and compute tolls on radio and domestic traffic.

7. RADIOTELEPHONE OPERATOR'S RESTRICTED
CERTIFICATE (ROR)

Three classes of Radiotelephone Operator's Restricted Certificates are provided:

- ROR (Maritime) - ship or coast stations (not open to public correspondence).
- ROR (Aeronautical) - mobile stations installed in aircraft or land stations performing an aeronautical mobile service.
- ROR (Land) - land or mobile stations except a land station performing an aeronautical mobile service or a mobile station installed in an aircraft.

The holder of a ROR Certificate may act as a radiotelephone operator on stations fitted only with radiotelephone equipment where the carrier wave does not exceed 250 watts and the operation of the transmitter requires only the use of simple external switching devices excluding all manual adjustment of frequency determining elements.

The holder of a Radiotelephone Operator's Restricted Certificate (Maritime, Aeronautical, or Land) may have the certificate endorsed for one or both of the other services, by meeting the examination(s) requirements.

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|----------------------|---|
| Examination | 8. The examination for the Radiotelephone Operator's Restricted Certificate, Aeronautical, Maritime and Land consists of a three sectional oral examination. |
| Practical | 8.1 In section (1) a candidate is required to satisfy an examiner that he is capable of operating modern radiotelephone equipment as used in aeronautical, maritime or land stations. Additionally, candidates taking the ROR (Maritime) shall demonstrate a practical knowledge of lifeboat portable radio apparatus and the charging of batteries. |
| Operating Procedures | 8.2 In section (2) a candidate is required to satisfy an examiner that he possesses a general knowledge of radiotelephone operation procedure, the international regulations applicable to radiotelephone communications between stations in the aeronautical, maritime or land services, and specifically of those regulations relating to the safety of life. |
| Domestic Regulations | 8.3 In section (3) a candidate is required to satisfy an examiner that he possesses a general knowledge of the Radio Act and the Regulations made thereunder. |

- Language Requirement
9. A candidate taking a ROR Certificate examination shall be examined in either of the two official languages, but in the case of a candidate who is examined in French for the Radiotelephone Operator's Restricted Certificate (Aeronautical) his attention shall be drawn to Air Navigation Order, Series 1, No. 1 respecting voice communications.
10. STUDY GUIDES
- Procedures
- 10.1 Maritime, aeronautical and land procedures are outlined in a handbook entitled "Radiotelephone Operator Handbook - Land/Sea/Air". This book may be obtained from Supply and Services Bookshops, Catalogue No. Co22-1/1976, price: 75 cents. In addition, maritime procedures are outlined briefly in "Radio Aids to Marine Navigation" and aeronautical procedures are outlined briefly in "Air Navigation Radio Aids". These publications may be purchased from Supply and Services, Ottawa, Ontario.*
- Regulations
- 10.2 Regulations governing the use of radio in Canada are contained in the General Radio Regulations, Parts I and II. These documents may be obtained from Supply and Services, Ottawa, Ontario.*
- Traffic (Computation of Tolls)
- 10.3 Information for the guidance of candidates in word counting, computation of message tolls and charges for direct communication between a ship and a land telephone subscriber is contained in the publications:
- "Manual for use by the Maritime Mobile Service", copies of which are obtainable from Supply and Services, Ottawa, Ontario or from the General Secretariat of the International Telecommunication Union, Geneva, Switzerland and handbook for radio operators, published by HMSO Catalogue No. ISBN 0 11 880462 6, which may be obtained from Pendragon Publishing, 2525 Dunwin Drive, Mississauga, Ontario.

Technical

10.4 The following publications are suggested for the use of students of radio, and may be obtained direct from the publisher or from book stores except where otherwise indicated: -

"Electronic Communication" (Robert L. Shrader) McGraw-Hill Ryerson Ltd., 330 Progress Ave., Scarborough, Ontario M1P 2Z5.

"The Radio Amateur's Handbook" The American Radio Relay League Inc., Newington, Connecticut, U.S.A.

"Essentials of Electricity and Electronics" (Slurzberg & Osterheld) McGraw-Hill Ryerson Ltd., 330 Progress Ave., Scarborough, Ontario M1P 2Z5.

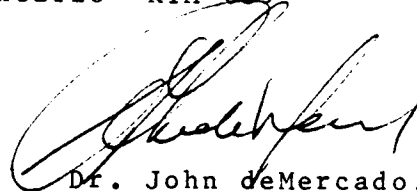
"Radio Fundamentals" (Electrical) Royal Canadian Navy, Supply and Services, Ottawa, Ontario.*

"Radio Fundamentals" (Electronic) Royal Canadian Navy, Supply and Services, Ottawa, Ontario.*

"Technique de l'électricité", by A. Marcus, Translated from English (American) by A. Six. Published by Technique et Documentation, 11, rue Lavoisier, Paris 8e (France).

* Postal address:

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