



Government of Canada
Department of Communications

Gouvernement du Canada
Ministère des Communications

TRC-64
ISSUE - 2

TELECOMMUNICATIONS REGULATION CIRCULAR

**SYNTHESIZED RADIO EQUIPMENT
CERTIFICATION REQUIREMENTS**

EFFECTIVE DATE: 10 DECEMBER 1984

TELECOMMUNICATION REGULATORY SERVICE

FOREWORD

Telecommunication Regulation Circulars (TRC's) are issued for the guidance of those engaged in telecommunications in Canada. The information contained in these circulars is subject to change at any time and it is therefore suggested that interested persons consult the nearest Department of Communications office to ascertain whether or not this circular is current.

This document describes the implementation of certification requirements for radio transmitters that utilize frequency synthesis techniques as described herein. The equipment affected is generally employed in the Fixed, Land Mobile or Maritime Mobile Services.

ISSUE 2 OF ADDENDUM TO RADIO STANDARDS SPECIFICATIONS
119, 120, 121, 125, 140, 180, 181
and 182

This addendum adds the following requirements to the subject Radio Standards Specifications (RSS):

"Radio equipment employed in the Fixed and Land Mobile Services (RSS 119, 120, 121, 125, 140 and 180) and utilizing frequency synthesis techniques for the generation of their necessary transmission frequencies shall be capable of being internally preset to operate only on discrete frequencies to be authorized in the licencing process.

Synthesized radio equipment intended for use in the Maritime Mobile Service (RSS 181 and 182) shall be capable of being internally preset to operate only on those frequencies listed in the appropriate Appendix to the Radio Regulations published by the International Telecommunication Union (ITU) or a subset thereof.

Operator selection of other than the preset frequencies shall not be possible."

SYNTHESIZED RADIO EQUIPMENT
CERTIFICATION REQUIREMENTS

1. This document describes the implementation of certification requirements for synthesized radio transmitters. For the purpose of this TRC, a synthesized radio transmitter is defined as a radio transmitter that utilizes frequency synthesis techniques for the generation of its necessary transmission frequencies.
2. In order to limit operator access to only authorized frequencies, an addendum is added to Radio Standards Specifications (RSS's) 119, 120, 121, 125, 140, 180, 181 and 182 to stipulate that the equipment shall be capable of being internally preset to operate only on discrete frequencies as authorized and that operator selection of other than the preset frequencies shall not be possible. The addendum adds the following requirement to the above Radio Standards Specifications:

"Radio equipment employed in the Fixed and Land Mobile Services (RSS 119, 120, 121, 125, 140 and 180) and utilizing frequency synthesis techniques for the generation of their necessary transmission frequencies shall be capable of being internally preset to operate only on discrete frequencies to be authorized in the licencing process.

Synthesized radio equipment intended for use in the Maritime Mobile Service (RSS 181 and 182) shall be capable of being internally preset to operate only on those frequencies listed

in the appropriate Appendix to the Radio Regulations published by the International Telecommunication Union (ITU) or a subset thereof.

Operator selection of other than the preset frequencies shall not be possible."

3. Therefore after the effective date of this TRC, all new synthesized radio equipment proposed for type approval certification and subsequent listing in the Radio Equipment List (REL) must be constructed such that operator access only to preset frequencies is possible.
4. Synthesized radio equipment which meets all the requirements of the appropriate above noted RSS's and the addendum requirement, will be certified as type approved and listed in Part A of the Radio Equipment List (REL).
5. Synthesized radio equipment which meets all the requirements of the appropriate above noted RSS's except those of the addendum will be considered for technical acceptance certification. This action is considered necessary since it is recognized that certain categories of users such as those engaged in enforcement of radio regulations, security or public safety activities may be able to demonstrate a need for synthesized equipment capable of operator selection of frequencies. Stations utilizing synthesized radio equipment with this capability may be licensed at the discretion of the Departmental licensing authorities provided the equipment is certified as being technically acceptable by the Department's Equipment Approval Unit.

6. Applications for equipment certification will be accepted upon issue of this TRC.

7. Synthesized radio equipment which was previously type approved but does not conform to the requirements of the addendum will be reclassified as being technically acceptable as indicated in paragraph 5. Existing licences for stations employing synthesized equipment will be subject to the process of revocation if the equipment is operated on other than authorized frequencies. The list of authorized frequencies is normally displayed on the station licence or attached as an annex to the licence.

8. Information regarding certification requirements and procedures can be obtained from either the district or regional offices or from the Departmental Headquarters in Ottawa at the following address:

Department of Communications
Journal Tower North
300 Slater Street
Ottawa, Ontario
K1A 0C8

Attention: Equipment Approval Unit

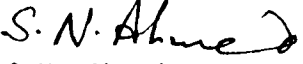
The Equipment Approval Unit can be contacted by telephone at
(613) 996-2112/992-4558.

9. The following documents are relevant to this TRC and with the exception of the Radio Equipment List, can be obtained at no cost from the Department:
- A. Radio Equipment List (REL);
 - B. RSP-100 Issue 4 "Certification Procedure";
 - C. Radio Standards Specifications: 119, 120, 121, 125, 140, 180, 181, and 182;
 - D. Addendum to the Radio Standards Specifications listed in paragraph 2 (For reference the addendum is attached).

The REL is available by mail from:

Canadian Government Publishing Centre
Supply and Services Canada
Hull, Quebec
Canada
K1A 0S9

The price of the one volume REL is \$27.00 while an annual subscription can be obtained for \$100.00. Corresponding prices for foreign orders are \$32.40 and \$120.00, respectively. It should be noted that prices are subject to change without notice.


S.N. Ahmed
Director
Engineering Programs Branch
Telecommunication Regulatory Service

Attach.1