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EUROPEAN RADIOCOMMUNICATIONS COMMITTEE

ERC Decision
of 22 October 1992
on the frequency bands to be designated
for the coordinated introduction of
Road Transport Telematic Systems
(ERC/DEC/(92)02)



Archive only: This Decision is withdrawn and replaced by ECC/DEC/(02)02

EXPLANATORY MEMORANDUM

1. INTRODUCTION

Within Europe, there is increasing interest in the development of a fully Integrated Road Transport Environment to improve all aspects of road transport. Communications systems will be an essential element of a future transport infrastructure for Europe, in particular, mobile data links between vehicles and between vehicles and the roadside infrastructure will be required for various applications including automatic toll-collection, route guidance and collision avoidance. The generic name for such applications is Road Transport Telematics (RTT).

RTT links may be realised using infra-red or radio-based technology. For radio-based RTT systems to be deployed within a trans-European road network, it is essential for common frequency bands, associated harmonised equipment standards and agreements on free circulation of equipment to be available throughout Europe.

The designation of frequency bands and the preparation of free circulation agreements are the responsibility of the European Radiocommunications Committee (ERC). The development of equipment standards is the responsibility of the European Telecommunications Standards Institute (ETSI).

2. BACKGROUND

Within Europe, the largest research programme concerned with the improvement of road safety, transport efficiency and environmental quality is the European Community's Research and Development Programme DRIVE (Dedicated Road Infrastructure for Vehicle Safety in Europe), adopted by Council Decision 88/416/EEC¹ in 1988. DRIVE identified a number of applications requiring radio frequencies and, through the Commission of the European Communities, approached the ERC with a request to identify suitable frequency bands which could be made available throughout Europe.

After careful consideration, including a survey of frequency availability in each CEPT member country, the ERC concluded in its Report 3² and recommended, in its Recommendation T/R 22-04 E³, that the frequency bands to be designated for RTT systems should be:

- 5.795-5.805 GHz for initial road to vehicle systems;
- 5.805-5.815 GHz, to be used on a national basis to meet the requirements of multi-lane road junctions;
- 63-64 GHz vehicle-to-vehicle links;
- 76-77 GHz for vehicular radar systems.

The Recommendation has designated these frequency bands for RTT systems on a non-exclusive basis, on the basis that there is a high degree of compatibility with existing systems and that RTT applications will be designed as intelligent systems with robust signalling protocols.

3. REQUIREMENT FOR AN ERC DECISION

The allocation of radio frequencies in CEPT member countries is laid down by law, regulation or administrative action. The ERC recognises that for RTT systems to be introduced successfully throughout Europe, manufacturers and operators must be given the confidence to make the necessary investment in the new pan-European radiocommunications systems and services. A commitment by CEPT member countries to implement an ERC Decision will provide a clear indication that the required frequency bands will be made available on time and on a Europe-wide basis. The Decision also provides for CEPT member countries to introduce into their national regimes, the ETSI standards and the CEPT mechanism for enabling free circulation.

¹ Council Decisions 88/416/EEC on a Community programme in the field of road transport informatics and telecommunications (DRIVE) O.J. L206

² ERC Report 3: Harmonisation of frequency bands to be designated for road transport information systems

³ Recommendation T/R 22-04 E (Lisbon 1991): Harmonisation of frequency bands for road transport information systems (RTI)

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The European Conference of Postal and Telecommunications Administrations,

considering

- a) that within Europe, there are proposals to develop a trans-European road transport network with the objectives of improving road safety, transport efficiency and the quality of the environment,
- b) that many of these proposals are dependent on systems to provide data communication between road vehicles and between vehicles and the road infrastructure for various information-based travel and transport applications,
- c) that such systems are known generically as Road Transport Telematic (RTT) systems,
- d) that RTT systems may use infra-red or radio-based technology,
- e) that the successful introduction of radio-based systems will depend upon the provision of common frequency bands throughout Europe and associated harmonised equipment standards,
- f) that in order to give manufacturers and operators the confidence to make massive investment in new pan-European radiocommunications systems and services, they need a clear indication that the required frequency bands will be made available on time and on a Europe-wide basis,
- g) that a major European RTT research and development programme has shown that for technical and commercial reasons, frequency bands both below 10 GHz and above 50 GHz are required,
- h) that the ERC has identified⁴ the band 5.795-5.805 GHz with a possible extension in the band 5.805-5.815 GHz, taking account of national situations, as the most suitable frequency band for the initial Road Transport Telematic systems in Europe. Additionally, the bands 63-64 GHz and 76-77 GHz have been identified for future vehicle-to-vehicle and vehicular radar systems respectively,
- i) that the use of these bands for Road Transport Telematic systems is in accordance with the Radio Regulations of the International Telecommunication Union (ITU),
- j) that the Radio Regulations designate the band 5.725-5.875 GHz (centre frequency 5.8 GHz) for industrial, scientific and medical (ISM) applications,
- k) that the frequency bands identified for RTT systems are used by existing services in accordance with the Radio Regulations,
- l) that it is not possible to fully protect the RTT systems from interference from ISM or services operating in accordance with the Radio Regulations,
- m) that RTT systems must be designed to enable frequency sharing with other systems and services,

⁴ ERC Report 3: Harmonisation of frequency bands to be designated for road transport information systems

NOTING

that this Decision does not cover RTT systems using infra-red technology,

DECIDES

1. for the purpose of this Decision, RTT systems are defined as systems providing data communication between road vehicles and between road vehicles and the road infrastructure for various information-based travel and transport applications,
2. to designate, on a non-exclusive basis, by the 1st January 1993 for RTT systems the frequency bands 5.795-5.805 GHz (with possible extension to 5.815 GHz), 63-64 GHz and 76-77 GHz, in accordance with Decides 3, 4 and 5 and subject to Decides 6,
3. that the band 5.795-5.805 GHz shall be used for initial road to vehicle systems, in particular road toll systems, with an additional sub-band, 5.805-5.815 GHz, to be used on a national basis to meet the requirements of multi-lane road junctions,
4. that the band 63-64 GHz shall be used for all vehicle-to-vehicle systems,
5. that the band 76-77 GHz shall be used for vehicular radar systems,
6. that RTT systems operating in these bands shall conform to such standards as are developed by the European Telecommunications Standards Institute (ETSI) for RTT systems, and shall be marked "CEPT-RTT Y" in accordance with Recommendation T/R 71-03 E,
7. that the ETSI standards for RTT are introduced into the national type approval regime as soon as possible after their approval by ETSI,
8. that RTT systems operating in the designated bands shall be permitted free circulation provided that the equipment is type approved and bears a mark in accordance with Decides 6.

Note:

Please check the ERO web site (www.ero.dk) under "Documentation / Implementation" for the up to date position on the implementation of this and other ERC Decisions.