Headquarters,
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FIELD MANUAL
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Spectrum Management

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No 24-2

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Spectrum Management

Contents

Unless otherwise stated, whenever the masculine gender is used, both men and women are included.

*This publication supersedes FM 24-2, 30 September 1987.

Preface

Purpose and Scope

This publication is a guide for US Army personnel engaged in spectrum management at all levels of command. It describes battlefield spectrum management responsibilities and functions from the international level down to the tactical battlefield level. It stresses management at the tactical field level. Electromagnetic spectrum saturation is most critical at this point. This publication stresses the continuing need for international understanding and cooperation in spectrum management and use.

User Information

The proponent of this publication is HQ TRADOC. Send comments and recommendations on DA Form 2028 directly to Commander, United States Army Signal Center and Fort Gordon, ATTN: ATZH-DTL, Fort Gordon, Georgia 30905-5075. Key comments and recommendations to pages and lines of text to which they apply. If DA Form 2028 is not available, a letter is acceptable. Provide reasons for your comments to ensure a complete understanding and proper evaluation.

This publication implements the following international standardized agreement(s): QSTAG 679, Millimeter Waves and Lasers (30 GHz and above); QSTAG 715, Battlefield Spectrum Management HF (1.5 - 30 MHz Band); QSTAG 716, Battlefield Spectrum Management VHF (30 - 88 MHz Band); QSTAG 718, Battlefield Spectrum Management UHF (225 - 400 MHz Band); QSTAG 719, Battlefield Spectrum Management Tactical Radio Relay and Tropospheric Scatter Systems; QSTAG 721, Battlefield Spectrum Management: Radar, Position Navigation, Tactical Sensor System and Multifunction Information Distribution System; QSTAG 723, Battlefield Spectrum Management: Deconfliction; STANAG 6004, MIJI Reporting.

Chapter 1

International Spectrum Management

1-1. Introduction

All nations share the electromagnetic spectrum and reserve their right to its unlimited use. However, for international telecommunications cooperation to support trade, transportation, communications, and mutual protection against interference, they have agreed to an International Telecommunications Convention. This serves as the basic instrument of the International Telecommunications Union (ITU) and its supporting bodies. This chapter covers this organization and relationship with the US.

1-2. The ITU

The United Nations recognizes the ITU as the specialized agency in the telecommunications field. The ITU maintains cooperation to improve all telecommunications. The ITU allocates the international radio frequency (RF) spectrum, registers frequency assignments, and coordinates resolving interference. Upon ratification by member nations, ITU regulations have treaty status. Each ITU member nation imposes regulatory measures within its administration. These measures must comply with the current Radio Regulations (RR) unless expressly excluded by either footnotes or by special arrangements.

1-3. The ITU Organization

The Plenipotentiary Conference is the supreme agency of the ITU. It formulates general policies, establishes budgetary guidelines, elects members, and concludes agreements between the ITU and other international communications organizations. The ITU has three organizations or agencies that directly affect Army spectrum management: the World Administrative Radio Conference (WARC), the International Frequency Registration Board (IFRB), and the International Radio Consultative Committee (CCIR).

A WARC may deal with all of the radiocommunications services, or it may deal with specific radiocommunications services such as space, maritime, or aeronautical. Each WARC updates the RRs which allocate radio spectrum use on a worldwide basis except where regional requirements differ and are agreed. Figure 1-1 shows the three recognized regions. In addition, the tropical area centered on the equator has additional provisions to offset its higher electrical noise. Figure 1-2 shows all the uses of radio spectrum that are managed by services. Exceptions to these allocations may be footnotes for specific countries or reservations made by that country at the WARCs.

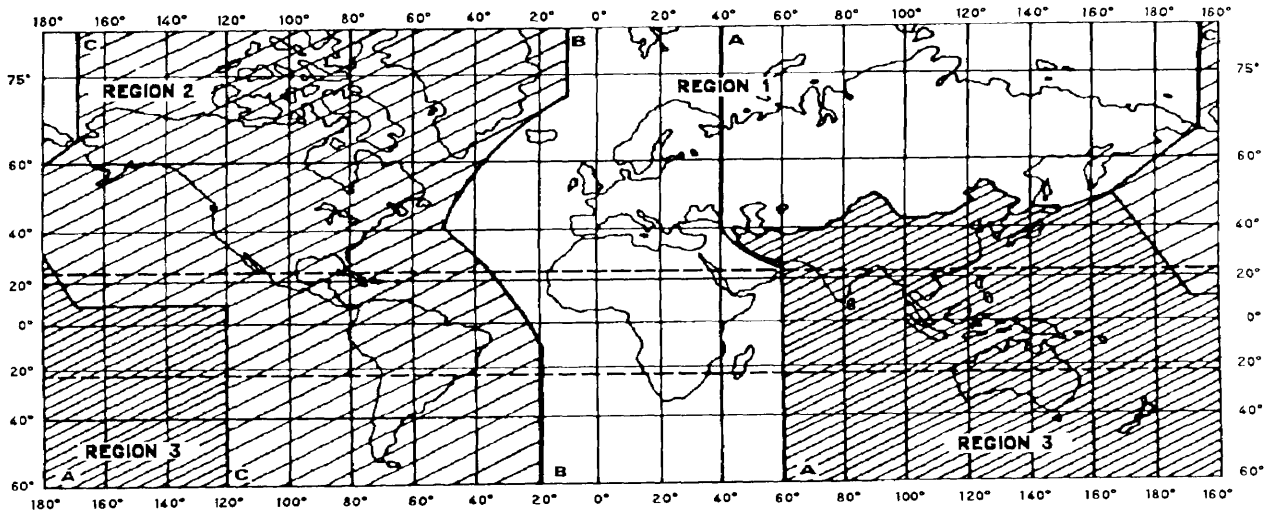

Figure 1-1. Spectrum use regions.