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INTERNATIONAL ELECTROTECHNICAL VOCABULARY

Chapter 726 – TRANSMISSION LINES AND WAVEGUIDES

This Australian Standard was prepared by Committee TE/13, Symbols, Units and Quantities for Electrotechnology. It was approved on behalf of the Council of the Standards Association of Australia on 19 August 1983 and published on 2 December 1983.

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Department of Defence
Department of Housing and Construction
Department of Technical and Further Education, N.S.W. and Victoria
Electricity Supply Association of Australia
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Chapter 726 - TRANSMISSION LINES AND WAVEGUIDES

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PREFACE

This Standard was prepared by the Association's Committee on Symbols, Units and Quantities for Electrotechnology under the authority of both the Telecommunications and Electronics Standards Board and the Electrical Standards Board. This standard supersedes AS 1852(62)—1970, International Electrotechnical Vocabulary, Waveguides, which is now withdrawn.

This Standard is identical with and has been reproduced from IEC 50(726)—1982. Acknowledgment is accordingly made to the International Electrotechnical Commission for this assistance.

This Standard is one of the AS 1852 series of Standards. In the past, this series has consisted of direct endorsements of the IEC 50 series of the International Electrotechnical Vocabulary. In future, newly issued parts of IEC 50, where appropriate, will be issued as Australian Standards, i.e. not endorsements. The full text of the definitions in English, French and Russian has been included as some definitions are considered to be incomplete when produced in one language.

This chapter of the International Electrotechnical Vocabulary (I.E.V.) relating to telecommunications has been prepared by a Joint Group of experts from the Technical Committees of the International Telecommunication Union (I.T.U.)—International Consultative Radiocommunication (C.C.I.R.), International Consultative Telegraph and Telephone Committee (C.C.I.T.T.)—and from the International Electrotechnical Commission (IEC).

The purpose of the AS 1852 series is to provide a glossary of terms used in electrical engineering. The series lists terms in English, French and Russian, and in some cases Spanish. It is intended that other Australian Standards will refer to AS 1852 and not repeat any definitions.

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INTRODUCTION

Use of the term "transmission line"

Historically, the term "transmission line" was used to describe any device for conveying electromagnetic energy with a minimum of loss. Presently, terms such as "parallel-wire line", "coaxial line", "waveguide", are used to represent particular examples of the more general transmission line.

In this chapter of the vocabulary the general term "transmission line" is used when discussing a multiplicity of varieties collectively.

This chapter of the vocabulary does not consider particularly lines such that twisted pairs or laid quads which are covered in Chapter 727 entitled "Cables and connectors".

This chapter of the vocabulary does not include optical waveguides which are covered in Chapter 731 entitled "Optical fibres".

Terms printed in italics

In the text of definitions in this chapter, terms defined elsewhere in the same chapter are printed in *italics*. A correct understanding of the definitions in which they appear depends on the knowledge of the exact meaning assigned to these terms by other definitions.

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CHAPTER 726—TRANSMISSION LINES AND WAVEGUIDES

SECTION 726-01 — TRANSMISSION LINE, WAVEGUIDE AND CAVITY RESONATOR CONFIGURATIONS

726-01-01

ligne de transmission

Dispositif destiné à transporter l'énergie électromagnétique d'un point à un autre avec un minimum de pertes par rayonnement.

transmission line

A means for conveying electromagnetic energy between two points with a minimum of radiation.

линия передачи

Средство для передачи электромагнитной энергии между двумя точками с минимальным излучением.

línea de transmisión

Dispositivo destinado a transportar energía electromagnética de un punto a otro con un mínimo de pérdidas por radiación.

726-01-02

guide d'ondes

Ligne de transmission constituée d'un ensemble de surfaces limites ou de formes matérielles destiné à guider des ondes électromagnétiques.

Note. — La forme la plus commune d'un guide d'ondes est un tube métallique; d'autres formes sont une tige diélectrique ou un assemblage de matériaux conducteurs et diélectriques.

waveguide

A *transmission line* consisting of a system of material boundaries or structures for guiding electromagnetic waves.

Note. — The most common form of waveguide is a metallic tube; other forms are dielectric rod, or a mixed structure of conducting and dielectric materials.

волновод

Линия передачи, состоящая из системы физических границ или структур для проведения электромагнитных волн.

Примечание. — Самая распространенная форма *волновода* — металлическая труба; другими формами являются диэлектрический стержень или смешанная структура проводящих и диэлектрических материалов.

guíaonda

Línea de transmisión constituida por un conjunto de superficies límites ó estructuras destinadas a guiar ondas electromagnéticas.

Observación. — La forma más usual de una guíaonda es un tubo metálico; otras formas son una varilla dieléctrica ó una estructura mixta de materiales conductores y dieléctricos.