

WILEY ELECTRICAL AND ELECTRONICS ENGINEERING DICTIONARY

Steven M. Kaplan
Lexicographer



IEEE PRESS



A JOHN WILEY & SONS, INC., PUBLICATION

Copyright © 2004 by John Wiley & Sons, Inc. All rights reserved.

Published by John Wiley & Sons, Inc., Hoboken, New Jersey.
Published simultaneously in Canada.

No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, scanning or otherwise, except as permitted under Section 107 or 108 of the 1976 United States Copyright Act, without either the prior written permission of the Publisher, or authorization through payment of the appropriate per-copy fee to the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, 978-750-8400, fax 978-646-8600, or on the web at www.copyright.com. Requests to the Publisher for permission should be addressed to the Permissions Department, John Wiley & Sons, Inc., 111 River Street, Hoboken, NJ 07030, (201) 748-6011, fax (201) 748-6008.

Limit of Liability/Disclaimer of Warranty: While the publisher and author have used their best efforts in preparing this book, they make no representation or warranties with respect to the accuracy or completeness of the contents of this book and specifically disclaim any implied warranties of merchantability or fitness for a particular purpose. No warranty may be created or extended by sales representatives or written sales materials. The advice and strategies contained herein may not be suitable for your situation. You should consult with a professional where appropriate. Neither the publisher nor author shall be liable for any loss of profit or any other commercial damages, including but not limited to special, incidental, consequential, or other damages.

For general information on our other products and services please contact our Customer Care Department within the U.S. at 877-762-2974, outside the U.S. at 317-572-3993 or fax 317-572-4002.

Wiley also publishes its books in a variety of electronic formats. Some content that appears in print, however, may not be available in electronic format.

Library of Congress Cataloging-in-Publication Data is available.

Kaplan, Steven M.

Wiley Electrical and Electronics Engineering Dictionary

ISBN 0-471-40224-9

Printed in the United States of America.

10 9 8 7 6 5 4 3 2 1

decoupling capacitor A capacitor utilized in a circuit for the substantial reduction, or elimination of coupling. Said especially of such a capacitor used in a decoupling network.

decoupling filter A filter intended to substantially reduce, or eliminate coupling. Such a filter may be used, for instance, between amplifier stages to avoid interstage coupling.

decoupling network A combination of components, such as resistors and capacitors, used between two or more circuits to avoid interstage coupling.

decrement 1. The process of gradually decreasing a quantity or variable. 2. The amount or value lost through the process of gradually decreasing a quantity or variable. 3. Same as **damping factor** (2).

decrypt Same as **decode** (1).

decryption The process of unscrambling information, such as data, with the use of a key.

decryption key A series of binary digits or characters that are utilized to unscramble data which has been encrypted.

DECT Acronym for **Digital-Enhanced Cordless Telephone**, or **Digitally-Enhanced Cordless Telephone**.

dedicated Designated for a specific use or function. For example, a communications circuit for use exclusively by specified users or for a particular function, such as data communication.

dedicated channel A communications channel designated for use exclusively by specified users or for a particular function, such as data communication.

dedicated circuit Same as **dedicated line** (1).

dedicated connection Same as **dedicated line** (1).

dedicated line 1. A permanent communications channel between two or more locations. Such a service includes private switching arrangements and a defined transmission path, and provides an exclusive high-speed connection which is available at all times. T1 and T3 lines are examples. Also called **dedicated circuit**, **dedicated connection**, **private line**, **leased circuit**, or **leased line**. 2. A telephone line which is used for a single purpose, such as for connection to a fax machine.

dedicated server A single computer whose sole function is that of serving a network.

dedicated short-range communication Its abbreviation is **DSRC**. Also called **RFID**. 1. A technology in which RF signals are emitted by an object in response to an interrogator, for purposes of identification, collection of information, or the like. A typical arrangement involves a reader which emits signals which a transponder, or tag, in the object responds to. The reader, which processes the obtained information, and tag need not be in nearly direct contact, as is required, for instance, in a bar-code system. 2. A system using **dedicated short-range communication** (1). Such a system may be utilized, for example, to identify store items being purchased or placed into inventory, to drive through a toll station having the appropriate amount automatically deducted from a smart card attached to the windshield, for the location, complete with proper placement instructions, of parts within a robotic assembly line, or for tracking the movements of people being spied on by attaching such devices on clothing, objects being carried, or via the surgical insertion or embedding of such transceivers. Higher-frequencies, greater transmission power, and enhanced antenna designs, for instance, may be utilized to extend the range of such systems.

dee Either of the two hollow accelerating electrodes in a cyclotron. Originally, such an electrode resembled a letter D, although now it may be in another shape, such as that of a horseshoe.

deemphasis The process of restoring an audio-frequency signal to its original form before reproduction. This is done

to offset the preemphasis of higher frequencies occurring prior to transmission or during recording. May be used, for instance, in frequency-modulated receivers. The utilization of preemphasis followed by deemphasis may help improve the overall signal-to-noise ratio and reduce distortion, among other benefits. Also called **post-emphasis**, or **post-equalization**.

deemphasis circuit Same as **deemphasis network**.

deemphasis network In an FM receiver, a resistance-capacitance filter that restores an audio-frequency signal to its original form. This is done to offset the preemphasis of higher frequencies occurring prior to transmission. Also called **deemphasis circuit**, **deaccentuator**, or **post-emphasis network**.

deenergize To disconnect a component, circuit, device, piece of equipment, or system from a source of power.

deenergized A component, circuit, device, piece of equipment, or system which is disconnected from a source of power.

deep cycle Pertaining to a rechargeable battery which can be repeatedly discharged to a large proportion of its overall capacity, without damage.

deep discharge The discharge of a cell or battery below a given proportion of its overall capacity. For instance, discharging to below 20% of its full charge.

deep level transient spectroscopy A spectroscopy technique utilized for the determination of various parameters of traps in semiconductors. Such parameters include energy levels, concentrations, capture cross-sections, and activation energies. Its abbreviation is **DLTS**.

deep linking Linking to a Web page other than the homepage of a given Web site.

deep ultraviolet lithography Same as **deep ultraviolet photolithography**. Its abbreviation is **deep UV lithography**.

deep ultraviolet photolithography Photolithography in which the resist is exposed to deep ultraviolet light, whose shorter wavelength provides enhanced resolution. The wavelength of such light is close to that of X-rays. Its abbreviation is **deep UV photolithography**. Also called **deep ultraviolet lithography**.

deep UV lithography Same as **deep ultraviolet photolithography**.

deep UV photolithography Same as **deep ultraviolet photolithography**.

deep Web Web content which is not found using search engines. Such content may be located, for instance, by using a given Web site's search feature. Also called **invisible web**.

default A setting of a component, device, piece of equipment, or system which is automatically selected if a user chooses no alternative.

default drive A computer disk drive which is automatically selected if a user chooses no alternative. For instance, a computer will boot up using a specific drive if none other is selected.

default password A password which is set by a manufacturer or provider of a device, piece of equipment, system, software item, or the like. Such passwords are usually extremely easy to guess, or are otherwise known by those seeking to take advantage of individuals or entities that don't bother to change them.

defect 1. A lack of something which is necessary for full utility and/or performance. 2. An imperfection or irregularity which impairs utility and/or performance. 3. A flaw in a crystal lattice. 4. A hole, as opposed to an electron, in a semiconductor crystal.

defect conduction Electric conduction via holes in the valence band of a semiconductor material.