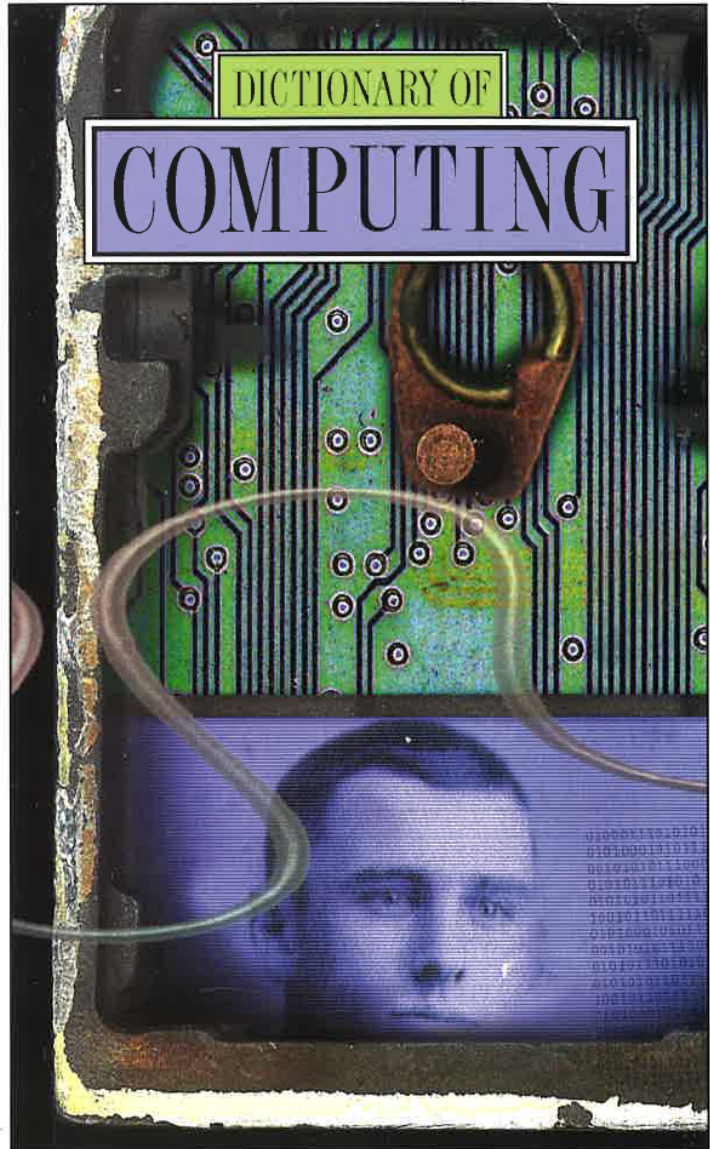


O X F O R D
PAPERBACK REFERENCE



FOURTH EDITION

A Dictionary of
Computing

FOURTH EDITION

Oxford New York

OXFORD UNIVERSITY PRESS

1997

Oxford University Press, Great Clarendon Street, Oxford OX2 6DP
Oxford New York
Athens Auckland Bangkok Bogota Bombay Buenos Aires
Calcutta Cape Town Dar es Salaam Delhi Florence Hong Kong
Istanbul Karachi Kuala Lumpur Madras Madrid Melbourne
Mexico City Nairobi Paris Singapore Taipei Tokyo Toronto Warsaw
and associated companies in
Berlin Ibadan

Oxford is a trade mark of Oxford University Press

© Market House Books Ltd, 1983, 1986, 1990, 1996

First published 1983
Second edition 1986
Third edition 1990
Fourth edition 1996

First issued (with corrections) as an Oxford University Press paperback 1997

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, without the prior permission in writing of Oxford University Press. Within the UK, exceptions are allowed in respect of any fair dealing for the purpose of research or private study, or criticism or review, as permitted under the Copyright, Designs and Patents Act, 1988, or in the case of reprographic reproduction in accordance with the terms of the licences issued by the Copyright Licensing Agency. Enquiries concerning reproduction outside these terms and in other countries should be sent to the Rights Department, Oxford University Press, at the address above

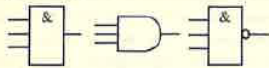
This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out or otherwise circulated without the publisher's prior consent in any form of binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser

British Library Cataloguing in Publication Data
Data available

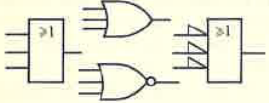
Library of Congress Cataloguing in Publication Data
Data available
ISBN 0-19-280046-9

1 3 5 7 9 10 8 6 4 2

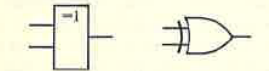
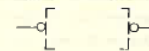
Printed in Great Britain by
Biddles Ltd
Guildford and King's Lynn

Combinational logic symbols:
AND function

OR function



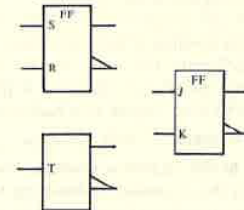
exclusive-OR function

Indicator symbols
negation indicator

polarity indicator



Flip-flops



Commonly used logic symbols

as verbs: *log off*, *log out*, or *sign off*. By logging off, the user ensures that all the system resources that have been used during the session are accounted for, and any temporary files created during the session are deleted.

logon 1. (or *log on*) *See* login.

2. A unit of information, equal to the product of one unit of *bandwidth by one unit of time, in Denis Gabor's physical theory of communication. In contrast, Shannon's mathematical theory of communication uses the concept of *entropy.

logout (or *log out*) *See* logoff.**longitudinal redundancy check (LRC)** *See* cyclic redundancy check.**lookahead** *Short for* carry lookahead.

lookahead unit A unit forming part of an instruction unit pipeline in computers such as *Stretch.

lookup table *See* table lookup.

loop 1. A sequence of instructions that is repeated until a prescribed condition, such as agreement with a data element or completion of a count, is satisfied. *See also* do loop.

2. A configuration of a *local area network

that consists of nodes connected serially in a ring topology. *See* ring network.

3. (local loop) The (twisted pair) connection from a switching exchange to the subscriber terminal.

loop invariant *See* invariant.

lossless coding Coding in which no *information whatsoever is lost during the *encoding (or *decoding) process. Generally, *encryption and *decryption are lossless, as is *channel coding. Strictly, *data compaction is lossless, while *data compression is not, but the latter term is often used for the former. The decoding of (i.e. recovery from) compression and compaction are lossless. But the decoding of a signal received from a *channel is usually lossy (strictly not lossless) by design, since the *noise at least must be lost; the message entering the channel will usually have been prepared so as to permit this loss by the use of an *error-correcting code.

lossless compression Any method of *compression that allows the original data to be recovered from the compressed data. *See also* lossless coding.