

INCLUDES VERSION 4

RAY DUNCAN

ADVANCED

SECOND EDITION

# MSDOS<sup>®</sup>

PROGRAMMING

Microsoft  
PRESS

The  
Microsoft<sup>®</sup>  
guide for  
Assembly  
Language  
and C  
programmers

RAY DUNCAN

ADVANCED

# MSDOS<sup>®</sup>

PROGRAMMING



*The  
Microsoft<sup>®</sup>  
guide for  
Assembly  
Language  
and C  
programmers*

PUBLISHED BY

Microsoft Press  
A Division of Microsoft Corporation  
16011 NE 36th Way, Box 97017, Redmond, Washington 98073-9717

Copyright © 1986, 1988 by Ray Duncan  
Published 1986. Second edition 1988.  
All rights reserved. No part of the contents of this book may  
be reproduced or transmitted in any form or by any means without  
the written permission of the publisher.

Library of Congress Cataloging in Publication Data

Duncan, Ray, 1952-  
Advanced MS-DOS programming.  
Rev. ed. of: Advanced MS-DOS. ©1986.  
Includes index.

1. MS-DOS (Computer operating system) 2. Assembler language  
(Computer program language) 3. C (Computer program language)

I. Duncan, Ray, 1952- Advanced MS-DOS. II. Title.  
QA76.76.063D858 1988 005.4'46 88-1251  
ISBN 1-55615-157-8

Printed and bound in the United States of America.

1 2 3 4 5 6 7 8 9 FGFG 3 2 1 0 9 8

Distributed to the book trade in the United States  
by Harper & Row.

Distributed to the book trade in Canada by General  
Publishing Company, Ltd.

Penguin Books Ltd., Harmondsworth, Middlesex, England  
Penguin Books Australia Ltd., Ringwood, Victoria, Australia  
Penguin Books N.Z. Ltd., 182-190 Wairu Road, Auckland 10, New Zealand

British Cataloging in Publication Data available

IBM®, PC/AT®, and PS/2® are registered trademarks of International Business Machines Corporation. CodeView®,  
Microsoft®, MS-DOS®, and XENIX® are registered trademarks and InPort™ is a trademark of Microsoft Corporation.

---

Technical Editor: Mike Halvorson Production Editor: Mary Ann Jones

---

*SECTION II*

**MS-DOS**

**Functions**

**Reference**

## Notes to the Reader

This section documents the services that the MS-DOS kernel provides to application programs via software interrupts 20H–2FH. Each MS-DOS function is described in the same format:

- A heading containing the function's name, software interrupt and function number, and an icon indicating the MS-DOS version in which the function was first supported. You can assume that the function is available in all subsequent MS-DOS versions unless explicitly noted otherwise.
- A synopsis of the actions performed by the function and the circumstances under which it would be used.
- A summary of the function's arguments.
- The results and/or error indicators returned by the function. A comprehensive list of error codes can be found in the entry for Int 21H Function 59H.
- Notes describing special uses or dependencies of the function.
- A skeleton example of the function's use, written in assembly language.

Version icons used in the synopsis, arguments, results, or Notes sections refer to specific minor or major versions, unless they include a + sign to indicate a version and all subsequent versions.

For purposes of clarity, the examples may include instructions that would not be necessary if the code were inserted into a working program. For example, most of the examples explicitly set the segment registers when passing the address of a filename or buffer to MS-DOS; in real applications, the segment registers are usually initialized once at entry to the program and left alone thereafter.

# Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

## Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

## Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

## Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

## API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

## LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

## FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

## E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.