

Mathcad

User's Guide

Mathcad 8 Professional

Mathcad 8 Professional Academic

Mathcad 8 Standard

MathSoft, Inc.
101 Main Street
Cambridge
Massachusetts 02142
USA
<http://www.mathsoft.com/>

MathSoft
 $\Sigma + \sqrt{-} = \times \int \div \delta$

MathSoft, Inc. owns both the Mathcad software program and its documentation. Both the program and documentation are copyrighted with all rights reserved by MathSoft. No part of this publication may be produced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form without the written permission of MathSoft, Inc.

U.S. Patent Numbers 5,526,475 and 5,468,538.

See the License Agreement and Limited Warranty for complete information.

English spelling software by Inso, Inc. MKM developed by Waterloo Maple Software.

Copyright © 1986-1998 MathSoft, Inc. All rights reserved.

MathSoft, Inc.
101 Main Street
Cambridge, MA 02142
USA

Mathcad, *Axum*, and *S-PLUS* are registered trademarks of MathSoft, Inc. *Electronic Book*, *QuickSheets*, *MathConnex*, *ConnexScript*, *Collaboratory*, *IntelliMath*, *Live Symbolics*, and the MathSoft logo are trademarks of MathSoft, Inc.

Microsoft, *Windows*, *IntelliMouse*, and the Windows logo are registered trademarks of Microsoft Corp. *Windows NT* is a trademark of Microsoft Corp.

OpenGL is a registered trademark of Silicon Graphics, Inc.

MATLAB is a registered trademark of The MathWorks, Inc.

Other brand and product names referred to are trademarks or registered trademarks of their respective owners.

Printed in the United States of America. First printing: August 1998

Warning: MATHSOFT IS WILLING TO LICENSE THE ENCLOSED SOFTWARE TO YOU ONLY UPON THE CONDITION THAT YOU ACCEPT ALL OF THE TERMS CONTAINED IN THIS LICENSE AGREEMENT. PLEASE READ THE TERMS CAREFULLY BEFORE OPENING THE PACKAGE WITH THE CD-ROM OR OTHER MEDIA, AS OPENING THE PACKAGE WILL INDICATE YOUR ASSENT TO THEM. IF YOU DO NOT AGREE TO THESE TERMS, THEN MATHSOFT IS UNWILLING TO LICENSE THE SOFTWARE TO YOU, IN WHICH EVENT YOU SHOULD RETURN THIS COMPLETE PACKAGE WITH ALL ORIGINAL MATERIALS AND THE UNOPENED PACKAGE WITH THE CD-ROM OR OTHER MEDIA AND YOUR MONEY WILL BE REFUNDED.

MATHSOFT, INC. LICENSE AGREEMENT

Both the Software and the documentation are protected under applicable copyright laws, international treaty provisions, and trade secret statutes of the various states. This Agreement grants you a personal, limited, non-exclusive, non-transferable license to use the Software and the documentation. This is not an agreement for the sale of the Software or the documentation or any copies or part thereof. Your right to use the Software and the documentation is limited to the terms and conditions described therein.

You may use the Software and the documentation solely for your own personal or internal purposes, for non-remunerated demonstrations (but not for delivery or sale) in connection with your personal or internal purposes:

- (a) if you have a single license, on only one computer at a time and by only one user at a time, the user of the computer on which the software is installed may make a copy for his or her exclusive use on a portable computer so long as the Software is not used on both computers at the same time;
- (b) if you have acquired multiple licenses, the Software may be used on either stand alone computers, or on computer networks, by a number of simultaneous users equal to or less than the number of licenses that you have acquired; and
- (c) if you maintain the confidentiality of the Software and documentation at all times.

Persons for whom license fees have not been paid may not access or use the Software, or any part thereof, through "programmatic access" or otherwise. Anyone wishing programmatic access will need to be established as users under the terms of this Agreement.

You may make copies of the Software solely for archival purposes, provided you reproduce and include the copyright notice on any backup copy.

You must have a reasonable mechanism or process which ensures that the number of users at any one time does not exceed the number of licenses you have paid for and prevents access to the Software to any person not authorized under the above license to use the Software. Any copy which you make of the Software, in whole or in part, is the property of MathSoft. You agree to reproduce and include MathSoft's copyright, trademark and other proprietary rights notices on any copy you make of the Software.

You may receive the Software in more than one medium. Regardless of the type or size of media you receive, you may use only one medium that is appropriate for your single computer. You may not use or install other medium on another computer. You may not loan, rent, lease, or otherwise transfer the other medium to another user.

You may not reverse engineer, decompile, or disassemble the Software, except and only to the extent that such activity is expressly permitted by applicable law notwithstanding this limitation.

If the Software is labeled as an upgrade, you must be properly licensed to use a product identified by MathSoft as being eligible for the upgrade in order to use the Software. Software labeled as an upgrade replaces and/or supplements the product that formed the basis of your eligibility for the upgrade. You may use the resulting upgraded product only in accordance with the terms of this license, which superseded all prior agreements.

MathSoft reserves all rights not expressly granted to you by this License Agreement. The license granted herein is limited solely to the uses specified above and, without limiting the generality of the foregoing, you are NOT licensed to use or to copy all or any part of the Software or the documentation in connection with the sale, resale, license, or other for-profit personal or commercial reproduction or commercial distribution or computer programs or other materials without the prior written consent of MathSoft. You will not export or re-export the Software without the appropriate United States and/or foreign government licenses.

LIMITED WARRANTY

MathSoft warrants that the media on which the Software is recorded will be free from defects in materials and workmanship under normal use for a period of ninety (90) days from the date of purchase as evidenced by a copy of your receipt. The liability of MathSoft pursuant to this limited warranty shall be limited to the replacement of the defective media. If failure of the media has resulted from accident, abuse, or misapplication of the product, then MathSoft shall have no responsibility to replace the media under this limited warranty.

THIS LIMITED WARRANTY AND RIGHT OF REPLACEMENT IS IN LIEU OF, AND YOU HEREBY WAIVE, ANY AND ALL OTHER WARRANTIES BOTH EXPRESS AND IMPLIED, RELATING TO THE SOFTWARE, DOCUMENTATION, MEDIA OR THIS LICENSE, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NONINFRINGEMENT. IN NO EVENT SHALL MATHSOFT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF USE, LOSS OF REVENUES OR PROFIT, LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY THIRD PARTIES EVEN IF MATHSOFT HAS BEEN ADVISED OF THE POSSIBILITIES OF SUCH DAMAGES. NO ORAL OR WRITTEN INFORMATION OR ADVICE GIVEN BY MATHSOFT, ITS EMPLOYEES, DISTRIBUTORS, DEALERS, OR AGENTS SHALL INCREASE THE SCOPE OF THE ABOVE WARRANTIES OR CREATE ANY NEW WARRANTIES; WE DISCLAIM AND EXCLUDE ALL OTHER IMPLIED OR EXPRESS WARRANTIES. This warranty gives you specific legal rights which may vary from state to state. Some states do not allow the limitation or exclusion of liability for consequential damages, so the above limitation may not apply to you.

MathSoft hereby warns you that due to the complexity of the Software it is possible that use of the Software could lead unintentionally to the loss or corruption of data. You assume all risk for such data loss or corruption; the warranties provided hereunder do not cover any damage or losses resulting therefrom.

MathSoft's licensors do not warrant the Software, do not assume any liability regarding the Software and do not undertake to furnish any support or information regarding the Software.

IN NO CASE WILL MATHSOFT'S LIABILITY EXCEED THE AMOUNT OF THE LICENSE FEE ACTUALLY PAID BY YOU TO MATHSOFT.

The Software and documentation are provided with restricted rights. Use, duplication, or disclosure by the Government is subject to restriction as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013 or subparagraphs (c)(1) and (2) of the Commercial Computer Software—Restricted Rights at 48 CFR 52.227-19, as applicable. Manufacturer is MathSoft, Inc., 101 Main Street, Cambridge, MA 02142.

Without prejudice to any other rights, MathSoft may terminate this license if you fail to comply with the terms and conditions of this Agreement. If this license is terminated, you agree to destroy all copies of the Software and documentation in your possession.

This License agreement shall be governed by the laws of the Commonwealth of Massachusetts and shall insure to the benefit of MathSoft, its successors, representatives, and assigns. The license granted hereunder may not be assigned, sublicensed, or otherwise transferred by you without the prior written consent of MathSoft. If any provisions of this Agreement shall be held to be invalid, illegal or unenforceable, the validity, legality, and enforceability of the remaining provisions shall in no way be affected or impaired thereby.