

**PACKAGE ID** - 000211IBMPC00 DOE-MACSYMA

**KWIC TITLE** - Computer Algebra System

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**LIMITATION CODE** -COPY                   **AUDIENCE CODE** - UNL

**COMPLETION DATE** - 02/01/1990   **PUBLICATION DATE** - 02/01/1990

**DESCRIPTION** - DOE-MACSYMA (Project MAC's SYmbolic MANipulation system) is a large computer programming system written in LISP. With DOE-MACSYMA the user can differentiate, integrate, take limits, solve systems of linear or polynomial equations, factor polynomials, expand functions in Laurent or Taylor series, solve differential equations (using direct or transform methods), compute Poisson series, plot curves, and manipulate matrices and tensors. A language similar to ALGOL-60 permits users to write their own programs for transforming symbolic expressions. Kyoto Common Lisp (KCL) provides the environment for the SUN(KCL), Convex, and IBM PC under UNIX and Data General under AOS/VS.

**PACKAGE CONTENTS** - Media Directory; Software Abstract; Reference Manual Version Ten, Vols I and II;

**SOURCE CODE INCLUDED?** - Yes

**MEDIA QUANTITY** - 6 5.25 Diskettes

**COMPUTER** - IBM PC

**OPERATING SYSTEMS** - UNIX System V

**PROGRAMMING LANGUAGES** - Kyoto Common Lisp

**SOURCE CODE AVAILABLE (Y/N)** - Y

**OTHER PROG/OPER SYS INFO** - The SUN(KCL), Symbolics3600, TI Explorer, Data General, Convex, and IBM PC versions are designed for a Kyoto Common Lisp environment with UNIX or AOS/VS operating system, such as the Data General MV10000. Each recipient is required to complete and return the Kyoto University SIGLISP License Agreement. The IBM PC version is designed for use on systems running AT&T System V UNIX.

**HARDWARE REQS** - The Data General version requires approximately 50 Mbytes of disk storage.

**REFERENCES** - The Mathlab Group, MIT Laboratory for Computer Science, MACSYMA Reference Manual, Version Ten, Volumes I and II, First Printing, January 1983; DOE-MACSYMA, NESC No. S9847.PC, Implementation Information and Description of the Transmittal

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**REFERENCES - (CONT)** Flexible Disk Cartridges (FDCs) for the IBM PC  
Version of DOE-MACSYMA Release 8.14, National Energy Software  
Center Note 91-24, November 28, 1990.

**ABSTRACT STATUS** - Abstract first distributed June 1984. IBM PC version  
submitted February 1990.

**SUBJECT CLASS CODE** - P

**KEYWORDS** -

COMPUTER PROGRAM DOCUMENTATION  
D CODES  
NUMERICAL ANALYSIS  
FUNCTIONS  
MATHEMATICAL MODELS  
ALGEBRA  
LISP  
DIFFERENTIAL CALCULUS  
INTEGRAL CALCULUS  
ANALYTICAL SOLUTION  
SERIES EXPANSION  
MATRICES

**EDB SUBJECT CATEGORIES** -  
990200

**SPONSOR** - DOE/ER

**PACKAGE TYPE** - SCREENED