

**PACKAGE ID** - 000368IBMPC00 DISPPAK,SUBPAK

**KWIC TITLE** - MS FORTRAN Extended Libraries

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

**COMPLETION DATE** - 09/01/1986   **PUBLICATION DATE** - 09/01/1986

**DESCRIPTION** - DISPPAK is a set of routines for use with Microsoft FORTRAN programs that allows the flexible display of information on the screen of an IBM PC in both text and graphics modes. The text mode routines allow the cursor to be placed at an arbitrary point on the screen and text to be displayed at the cursor location, making it possible to create menus and other structured displays. A routine to set the color of the characters that these routines display is also provided. A set of line drawing routines is included for use with IBM's Color Graphics Adapter or an equivalent board (such as the Enhanced Graphics Adapter in CGA emulation mode). These routines support both pixel coordinates and a user-specified set of real number coordinates. SUBPAK is a function library which allows Microsoft FORTRAN programs to calculate random numbers, issue calls to the operating system, read individual characters from the keyboard, perform Boolean and shift operations, and communicate with the I/O ports of the IBM PC. In addition, peek and poke routines, a routine that returns the address of any variable, and routines that can access the system time and date are included.

**PACKAGE CONTENTS** - NESC Note; Software Abstract; Media Includes Source, Object, Sample Problem, Machine Readable Documentation;

**SOURCE CODE INCLUDED?** - Yes

**MEDIA QUANTITY** - 1 5.25 Diskette

**METHOD OF SOLUTION** - For the DISPPAK line drawing routines, the user selects a fraction of the screen to use for plotting, chooses the coordinates that refer to the lower-left and upper-right corners, and decides whether the mapping should be linear or logarithmic. Lines are then drawn between endpoints defined in terms of the user coordinate system. Out-of-range coordinates are forced to the border of the window before the line is drawn.

**COMPUTER** - IBM PC

**OPERATING SYSTEMS** - DOS 2.1 or later

**PROGRAMMING LANGUAGES** - Microsoft FORTRAN (32%) and Assembler (68%)

**SOFTWARE LIMITATIONS** - No support is provided for filled areas or text.

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

**OTHER PROG/OPER SYS INFO** - Using arguments or functions of the wrong type can lead to incorrect results. Failing to declare the type of a function or passing the wrong number of arguments may cause problems requiring the user to reboot the PC.

**HARDWARE REQS** - The graphics routines require an IBM Color Graphics Adapter (CGA) or an adapter that emulates the CGA. All routines assume the presence of an 8087 Math Coprocessor chip.

**REFERENCES** - DISPPAK,SUBPAK, NESC No. 9618, DISPPAK,SUBPAK Flexible Disk Cartridge Description, National Energy Software Center Note 87-32.

**ABSTRACT STATUS** - Abstract first distributed December 1986. IBM PC version submitted September 1986. NEADB Executed the sample problem October, 1991.

**SUBJECT CLASS CODE** - P

**KEYWORDS** -

COMPUTER PROGRAM DOCUMENTATION  
D CODES  
COMPUTER GRAPHICS  
IBM COMPUTERS  
FORTRAN  
FUNCTIONS

**EDB SUBJECT CATEGORIES** -  
990200

**SPONSOR** - DOE/DP

**PACKAGE TYPE** - TESTED