

# digital

# Software Product Description

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PRODUCT NAME: Engineering Drawing Utilities, Version 1.0

SPD 15.54.0

## DESCRIPTION:

The Engineering Drawing Utilities are FORTRAN callable drawing subroutines designed to give a user enhanced control over graphics display and plotting devices. The utilities are available under the RSX-11M and VAX/VMS operating systems. The library includes subroutines which allow the application programmer to create relatively complex graphic output in an efficient manner. The calls can be directed to any of the following device types:

- DECgraphic refresh displays (VT11 or VS60 based), via the FORTRAN Graphics Package. See SPD 15.81.x.
- Pen Plotters (Calcomp), via the Pen Plotter Utilities. See SPD No. 15.53.x.
- Electrostatic Printer Plotter (Versatec) via the Electrostatic Plotting utilities. See SPD No. 15.52.x.

The following sections describe the key subroutines available. The user is provided considerable flexibility in defining user's units or plotter units (of measurements), absolute or relative movements, etc.

### *BASIC Symbol Drawing Commands:*

These commands allow basic geometric symbols to be drawn with a single call and include:

ARC  
CIRCLE  
RECTANGLE  
ELIPSE  
PARABOLA  
POLYGON  
HYPERBOLA  
DASHED LINES  
PARALLEL LINES

### *UTILITY Drawing Commands*

In addition to the basic commands, the library contains comprehensive utility calls to aid in efficient drawing creation, including:

FIG — Draws a continuous line through several points  
FIGX — Draws a continuous line through points whose Y-coordinates are at set increments.  
FIGY — Draws a continuous line through points whose X-coordinates are at set increments.  
NORTH — Draws a north arrow  
POINTR — Draws pointers for notes, etc.  
XAXIS — Draws an axis parallel to the plotter X-axis  
YAXIS — Draws an axis parallel to the plotter Y-axis  
OBAXIS — Draws an axis at any angle of orientation

GRID — Draws a grid of horizontal and vertical lines  
LOGAX — Draws a logarithmic axis  
CALAX — Draws an annotated calendar scale  
DIMLIN — Draws a dimension line  
CENLIN — Draws a centerline  
NOTE — Draws a single string of alphanumeric text  
TEXT — Draws several lines of alphanumeric text  
TITLE — Draws an alphanumeric title enclosed in a box  
BORDER — Draws a rectangular border of parallel lines  
XBAR — Draws a vertical bar chart given X-coordinates of data points  
YBAR — Draws a horizontal bar chart given Y-coordinates of data points  
NETWRK — Plots a network of lines between data points  
TRANS — Calculates coordinates for a translated view of a figure  
ROT3 — Calculates coordinates for a rotated view of a figure  
PERSP — Calculates coordinates for a two-dimensional view of a three-dimensional figure  
ISOM — Calculates coordinates for an isometric view of a three-dimensional figure  
OBLQ — Calculates coordinates for an oblique view of a three-dimensional figure

### Display "Snapshot" Facility:

In a system equipped with both DECgraphics display and a plotting device, the need frequently arises to output the current displayed image to hard copy. To facilitate this, a single "snapshot" call is also included in the library. "Snapshot" will take as input any VT11 or VS60 display file and produce a plotted output via the Pen Plotting Utilities (SPD 15.53.x), or the Electrostatic Plotting Utilities (SPD 15.52.x).

### MINIMUM HARDWARE REQUIRED:

- Any valid RSX-11M Version 3 or later configuration, or any VAX/VMS, Version 1 or later configuration
- 2,200 blocks of disk space (sources, objects, and library)
- Between 2K bytes and 5K bytes main memory, depending on usage
- Specific hardware required by the Graphics/Plotting prerequisite software

### OPTIONAL HARDWARE:

None

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**PREREQUISITE SOFTWARE:**

One of the following operating systems:

- RSX-11M Version 3 or later, and one of the following:
  1. FORTRAN IV/IAS-RSX, Version 2 or later
  2. FORTRAN IV-PLUS, Version 2.5 or later
- VAX/VMS, Version 1 or later, VAX-11 FORTRAN IV-PLUS, Version 1 or later

Also required is at least one of the following:

- FORTRAN Graphics Package, Version 1.1
- Pen Plotting Utilities, Version 1
- Electrostatic Plotting Utilities, Version 1

**OPTIONAL SOFTWARE:**

None

**TRAINING CREDITS:**

None

**SUPPORT CATEGORY:**

C — Software Support will be provided as stated in the Software Support Categories Addendum to this SPD.

**UPDATE POLICY:**

Software Updates, if any, released by DIGITAL during the one (1) year period following installation, will be provided to the customer for a media charge (includes no installation). After the first year, updates, if any, will be made available according to then prevailing DIGITAL policies.

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D = 9-track Magnetic Tape  
 Q = RL01 Disk Cartridge  
 V = RK07 Disk Cartridge

**Standard Options**

QS053 -Y— Single-use license, source license, sources, documentation, no support services (media: D, Q, V)

**ADDITIONAL SERVICES:**

None

ADDENDUM  
 SOFTWARE SUPPORT CATEGORIES

Each software product (hereinafter 'SOFTWARE') with a designated Support Category A or B in the applicable Software Product Description (SPD) existing at the time of order will be the current release at the time of delivery and will conform to the SPD. DIGITAL's sole obligation shall be to correct defects (nonconformance of the SOFTWARE to the SPD) as described below. Any SOFTWARE with a designated Support Category C will be furnished on an 'as is' basis.

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2. During the ninety (90) day period after installation, if the customer encounters a problem with the current unaltered release of the SOFTWARE which DIGITAL determines to be a defect in the SOFTWARE, DIGITAL will provide the following remedial service (on site where necessary): (1) if the SOFTWARE is inoperable, apply a temporary correction (TC) or make a reasonable attempt to develop an emergency by-pass, and (2) assist the customer to prepare a Software Performance Report (SPR) and submit it to DIGITAL.
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**CATEGORY B**

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**CATEGORY C**

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