

# digital

# Software Product Description

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**PRODUCT NAME: DECgraphic 10/20, Version 1.0**

**SPD 8.51.0**

## **DESCRIPTION:**

DECgraphic 10/20 is a library of FORTRAN callable routines for users of TOPS-10 and TOPS-20 operating systems who wish to use the graphics capabilities of the GT41, GT43, or GT62 Refresh Display Satellites. These graphics satellites communicate with the host system with a standard asynchronous serial line terminal interface.

Over 60 routines are provided in the DECgraphic 10/20 package. They are used for:

- Initializing and controlling the display
- Choosing screen area and scaling
- Creating graphic primitives
- Defining and using subpictures
- Displaying graphs and figures
- Using display-file pointer
- Changing display parameters
- Interacting with the display
- Polling interactive devices
- Using the optional pushbutton box (on GT43 and GT62)
- Controlling the keyboard
- Controlling the overall display
- Compressing, saving, and restoring the display file
- Inserting advanced display-file instructions

Through CALL statements, the user can display points, vectors, text, and graph data. The subpicture feature enables the programmer to display repeated images. Special graphics routines enable the programmer to display an entire array of data with one subroutine call. General "Attention handling" facilities for the light pen, LK11 push button box and LK40 keyboard are also included in the package. There are subroutines that let the programmer display menus for light pen selection. Miscellaneous routines enable the programmer to move, modify, delete and otherwise manipulate images.

Users of the GT62 graphics satellite can also alter the scale at which images and text strings are displayed, "window" the display viewing area over a large "drawing area" and select output on an optional second display screen at the GT62.

## **MINIMUM HARDWARE REQUIRED:**

Any valid TOPS-10, Version 6.03 (or later), or TOPS-20 Version 3 (or later) system configuration with

- RS232 serial line terminal interface and one of the following graphic satellite options:
  1. GT41 graphics satellite (17" screen) with
    - 32K bytes memory
    - light pen
    - LK40 ASCII Keyboard
    - DL11-E serial interface
  2. GT43 graphics satellite (17" screen) with
    - 32K bytes memory
    - light pen
    - DL11-E serial interface
    - LK40 ASCII Keyboard
    - (Optionally) LK11 function pushbutton box.
  3. GT62 High performance graphics satellite (21" screen) with
    - 32K bytes memory
    - light pen
    - DL11-E serial interface
    - LK11 function pushbutton box
    - LK40 ASCII keyboard

## **NOTE:**

The precise graphics satellite configuration must be specified when ordering DECgraphic 10/20.

## **OPTIONAL HARDWARE:**

None

## **PREREQUISITE SOFTWARE:**

One of the following:

1. TOPS-10, Version 6.03 or later, with FORTRAN-10, Version 5 or later
2. TOPS-20, Version 3 or later, with FORTRAN-20, Version 5 or later

## **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.

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**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.

**ORDERING INFORMATION:**

All binary licensed software, including any subsequent updates, is furnished under the licensing provisions of DIGITAL's Standard Terms and Conditions of Sale, which provide in part that the software and any part thereof may be used on only the single CPU on which the software is first installed, and may be copied, in whole or in part (with the proper inclusion of the DIGITAL copyright notice and any DIGITAL proprietary notices on the software) only for use on such CPU. All source licensed software is furnished only under the terms and conditions of a separate Software Program Sources Agreement between Purchaser and DIGITAL.

The following key (M) represents the distribution

media for the product and must be specified at the end of the order number, e.g., QS054-YM = sources on 9-track magnetic tape.

M = 1600 bpi 9-track Magnetic Tape

**Standard Options**

QS054 -Y— Single-use license, source license, sources, documentation, no support services (media: M)

**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.

For SOFTWARE with a designated Support Category A or B, DIGITAL will provide the services set forth below without additional charge.

**CATEGORY A**

1. Upon notification by customer to the nearest DIGITAL office that the computer system, including all required prerequisite hardware and software, is ready for the installation of the SOFTWARE, DIGITAL will install such SOFTWARE in any location within the contiguous forty-eight (48) United States, the District of Columbia, or a country in which DIGITAL or a subsidiary of DIGITAL has a software service facility. The notification must be received by DIGITAL and the system must be ready for installation within thirty (30) days after the delivery of the SOFTWARE to customer or DIGITAL will have no obligation to install. Installation will consist of: (1) verification that all components of the SOFTWARE have been received by customer, (2) loading the SOFTWARE, and (3) executing a DIGITAL sample procedure.
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.
3. During the one (1) year period following installation, if the customer encounters a problem with the SOFTWARE which his diagnosis indicates is caused by a SOFTWARE defect, the customer may submit an SPR to DIGITAL. DIGITAL will respond to problems reported in SPRs which are caused by defects in the current unaltered release of the SOFTWARE via the Maintenance Periodical for the SOFTWARE, which reports SPRs received, code corrections, temporary corrections, generally useful emergency by-passes and/or notice of the availability of corrected code. Software Updates, if any, released by DIGITAL during the one (1) year period, will be provided to the customer on DIGITAL's standard distribution media as specified in the applicable SPD. The customer will be charged only for the media on which such updates are provided, unless otherwise stated in the applicable SPD, at DIGITAL's then current media prices.

**CATEGORY B**

During the one (1) year period following delivery, the services provided to the customer will be the same as set forth in 3 above.

**CATEGORY C**

SOFTWARE is provided on an 'as is' basis. Any software services, if available, will be provided at the then current charges.

DIGITAL shall have the right to make additional charges for any additional effort required to provide services resulting from customer use of other than current unaltered release of the SOFTWARE operated in accordance with the SPD.