



# Software Product Description

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**PRODUCT NAME: CTS-300/DIS, Version 1, CTS-300 with DIBOL Instruction Set**

**SPD 12.11.1**

## **DESCRIPTION:**

CTS-300/DIS is a complete software environment for the DEC Datasystem 320. It provides an operating system, a high-level programming language, system utilities, a text editor, a sort/merge program, and program preparation tools. Program preparation is done in a single-user environment, but production is done with up to four users on the system simultaneously.

Features of CTS-300/DIS include:

*System Monitor* — There are two monitors delivered with CTS-300/DIS: the single-job monitor and the foreground/background monitor. The single-job monitor permits one development job or up to four production jobs to run simultaneously. The foreground/background monitor provides the same capabilities as the single job monitor but also permits a high priority task, such as communication with another system or high-speed printer spooling, to occur during the running of the background job. The monitor provides clear and concise messages to prompt the operator, and the user's keyboard commands are consistent and short. The monitor supports a contiguous file structure to achieve fast response time on randomly accessed files. The user can assign symbolic names to the peripheral devices, so that programs can be device independent. There is also a batch facility so the user can queue up a series of jobs to run unattended by the operator.

*The DIBOL Language* — DIBOL is DIGITAL's own business oriented high-level language. It is similar to COBOL in that it has a Data Division and a Procedure Division. Its procedural statements are English-like, but it is a more concise language than COBOL. DIBOL provides the ability to do data manipulation, arithmetic expression evaluation, subscripting of tables, redefinition of records, external calls to other programs, and both sequential and random access to files. Exception conditions cause control to transfer to a user-specified statement which can query status registers to determine the cause of the condition. A comprehensive on-line debugging system permits the program developer to quickly isolate and correct programming errors.

*Text Editor* — The Text Editor is used to create and modify ASCII files. Both character and line-oriented commands are provided, along with full provision for command interaction, editing macros, and run-time file manipulation. The Text Editor is used to create DIBOL source programs as well as data files.

*Sort/Merge* — The Sort/Merge utility permits the user to define the parameters for the sorting or merging of data files. A DIBOL program is then generated by the

system to perform the required sort or merge. The user can specify up to eight key fields to control the ordering of the output records, in either ascending or descending sequence. A wide range of control of operating parameters, such as the number of work files to be used, is provided to enable the user to achieve maximum sort efficiency.

*Linker* — The Linker is used to convert the output of the DIBOL compiler into run-time format and can combine two or more compiled programs into a single executable job. The linker provides the ability to specify overlays, so the run-time job uses less main memory than would otherwise be required. Even with overlays, the Linker is very easy to use. To execute programs on CTS-300/DIS which are written to execute under CTS-300, the user must re-link the object modules under CTS-300/DIS and vice versa.

*PIP* — The Peripheral Interchange Program (PIP) is a program that allows transfer of files (ASCII or binary) between any RT-11 supported devices. PIP also allows the user to rename and delete files.

*Librarian* — The Librarian creates and maintains libraries of commonly-used programs. The Linker uses the libraries in building executable jobs by copying into the job any required library programs.

*FILEX* — The FILEX (File Exchange) program converts files between the CTS-300/DIS format and the format of the DEC Datasystem 500 and the DEC Datasystem 310. This facility permits the sharing of data between the three families of systems. FILEX also enables the user to read and write flexible diskette files in IBM format.

*DECFORM* — The DECFORM Data Entry 300 system utility is a "forms compiler" that processes screen format directives and produces a DIBOL program which, when compiled and executed, performs specified data entry functions. In addition to defining screen formats, DECFORM enables the programmer to define field protection, auto-duplication, alphabetic or decimal checking, range checking, field totaling, cross-field validation, and auto-increment characteristics. DECFORM facilitates additions, inquiries, changes, verifications to sequentially ordered files, or ISAM (Indexed Sequential Access Method) files. Deletions are only possible with ISAM files.

*DMS-300* — Data Management Services for the DEC Datasystem 300 (DMS-300) provides capabilities for handling sequential, random or keyed records in files. Records can be keyed by a symbolic value within each record. Records thus keyed are accessed by an ISAM technique. DMS-300 also supports file sharing and multi-volume files.

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**MINIMUM HARDWARE REQUIRED:**

Any valid DEC Datasystem 320 series configuration that includes:

- a VT52 or LA36 console terminal
- an LP11 or LA180 printer

Use of the DECFORM utility requires a VT52 terminal.

**OPTIONAL HARDWARE:**

- Additional memory up to, a system total of 28K words (56K bytes)
- Up to a system total of 4 VT52 or LA36 Terminals
- Up to 3 DLV11 Asynchronous line interfaces (1 per additional terminal)
- RKV11 Disk cartridge controller with up to 8 logical disk units (an RK05-J disk cartridge drive uses one logical unit; an RK05-F fixed-head disk drive uses two logical units)
- RXV11 Floppy Disk system (either single or dual drive)

**PREREQUISITE SOFTWARE:**

None

**OPTIONAL SOFTWARE:**

RT-11 (CTS-300)/LSI-11 2780

**TRAINING CREDITS:**

Two (2) — Applies only to options that include support services. Consult the latest Educational Services Catalog at your local office for the available courses, course requirements, and guidelines.

**SUPPORT CATEGORY:**

A — 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.

**ORDERING INFORMATION:**

This software is furnished under a license for use on a single CPU and can be copied and modified (with inclusion of DIGITAL's copyright notice) only for use on such CPU, except as may otherwise be provided in writing by DIGITAL.

Standard options with no support services are only available after the purchase of one supported license. When a software license is ordered without support services, the category of support applicable to such software is Category C.

A single-use license only ("D") option is a license to copy the purchased single-use licensed software product. The category of support applicable to such copied software is Category C.

The following key (E, Y) represents the distribution media for the product and must be specified at the

end of the order number; e.g., QJ353-CE = distribution on RK05 disk.

E = RK05 Disk Cartridge  
Y = Floppy Diskette

**Standard Options**

This software is available only with a valid DEC Datasystem 320 that includes support services. It is also offered under a license for use with a valid Datasystem 320 that does not include software support services.

D322—RX11 Floppy Disk Based

D324—RK05 DECpack Cartridge Disk Based

**Upgrade Options**

The following option is available as an upgrade kit from for use on the same single CPU on which CTS-300 Version 3 is licensed. The license previously granted for CTS-300 Version 3 shall be extended to cover this upgrade.

QJ353 -C— Single-use license, binaries, documentation, no support services (media: E, Y)

**ADDITIONAL SERVICES:**

None

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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.