

Software Product Description

PRODUCT NAME: COS-310, Version 8, Commercial Operating System-310

SPD 5.98.6

DESCRIPTION:

COS-310 is one of Digital Equipment Corporation's DATASYSTEM 300 Series Commercial Operating Systems. It is an applications development tool for EDP users who wish to implement data management functions for small-to-medium size commercial applications. The software provides a minicomputer system configuration with the DIBOL Business Oriented Language, system generation and maintenance programs, SORT/MERGE utility, and system monitor with device handlers.

These programs constitute a self-contained disk-resident operating system. System features include: direct data access capability, CRT cursor control, User File Directories, and a large library of error messages.

COS-310 Monitor — COS-310 provides program operation master control through the system monitor. For memory economy, the monitor resides in two segments: one memory-resident and the other residing on the system device. The monitor includes a comprehensive set of commands which control program loading, editing, and file directories.

The monitor contains handlers for all I/O devices supported by COS-310. The COS-310 monitor device options include line printers, CRT console terminals, and floppy disk storage devices.

Editor — The system's editor consists of a basic source language editor as part of the monitor. It is an interactive editor with line numbers followed by the information to be inserted, deleted, or changed. The COS-310 editor provides automatic sequencing and resequencing of line numbers by simple commands. Input for the editor can originate from the console keyboard. Output from the editor can be a listing of a file on the console display or the line printer.

In the program development stage, the user can save and quickly recall programs from the system device. In operational mode, the user can batch commands to the monitor into a file to be executed as a job stream.

DIBOL Language — Digital Equipment Corporation's Business Oriented Language (DIBOL) is translated by the system's compiler "COMP" into DS300 interpretive code. Translation is from English-like source coding statements into object program routines.

The language permits data manipulation, arithmetic expressions, subscripting, arrays, record overlay, memory clear, file initialization, branching and tracing, program chaining, and printing overlapped with processing.

The language syntax is divided into two sections: a data definition section and a procedure section. The procedure section of the language consists of procedural verbs, each with comprehensive arguments. Some of the verbs are: PROC, XMIT, READ, WRITE, GOTO, IF, CALL, RETURN, FORMS, STOP, CHAIN, ACCEPT, DISPLAY, TRAP, and INCR.

SORT — COS-310 SORT is a multiphase sort which can reorder a data file containing fixed length records into a specified sequence. The user can specify up to eight fields (with sub-fields) of a fixed length record as a sort key. A file can be sorted in either the ascending or descending sequence of the contents of the fields in each record.

The SORT has merge file capability. For a multivolume sort, each volume must be sorted and then merged. Both SORT and MERGE are parameterized by a "Sort Control Program."

PIP (Peripheral Interchange Program) — PIP is a utility program that transfers files from one device to another. It can replace an existing file with a new file and allow data files to be combined. It can accept input from disk and produce output on terminal, disk, or the line printer.

SYSGEN (SYSem GENeration) — SYSGEN is a conversational utility program that allows the user to configure or modify the current system using simple English statements. It provides the following optional features: specifies disk and line-printer I/O handlers in the system, takes new logical unit assignments from the operator's terminal, and prints a table of current unit assignments. The user can specify the number of columns used on the line printer, either 80 or 132 columns. SYSGEN can transfer the system to another device for installation startup.

DFU (Data File Utility) — DFU allows the user to designate and examine logical unit assignments. The use of logical unit assignments for data files provides data file device independence to the programs using COS-310. Logical unit assignments may be input to DFU from the operator's keyboard, from a command

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file stored on the system device, or from the edit buffer. The current logical unit assignments can be displayed or printed.

PRINT — PRINT is a utility for the creation of report programs. Using a parameter file which describes the report, PRINT will generate a DIBOL program which will produce that report.

FLOW (FLOWchart generator) — FLOW is a utility program designed to assist in the program documentation process. FLOW will generate a printed flowchart from the DIBOL commands. The FLOW commands may optionally be included in the DIBOL source program.

Debugging Aids — COS-310 includes several features which facilitate DIBOL program debugging. The DIBOL language itself incorporates a TRACE/NO TRACE feature. When program tracing is enabled, each DIBOL statement executed causes a line to be printed containing the source file line number of the statement. This is useful and time-saving when tracking the order of statement execution. In addition to the TRACE feature, more complex program debugging techniques may be implemented using DDT (DIBOL Debugging Technique). The features of DDT include: breakpoint, variable examination, subroutine call traceback, and iteration. Data records may be edited with the use of DAFT (Dump and Fix techniques). DAFT provides the capability to search for, examine, list and change records. DAFT may also be used to make minor changes to a data file. The COS-310 program CREF (Cross Reference) is also an aid to program development. It provides an alphabetical listing of all symbols used in the DIBOL program, the line number where each symbol is defined, and all the line numbers where each symbol is used.

File Conversion Program — FILEX is a utility program that converts COS-300/310 formatted files stored on DECtape or RK05 disk into OS/8 formatted files and vice versa. In addition, FILEX can convert a COS-310 file stored on a flexible diskette or RK05 onto a flexible diskette in a format directly readable by the IBM 3740 series data entry terminal and the IBM System/32. IBM files on flexible diskettes can be converted to COS-310 format provided they are single volume and there are no bad tracks on the diskette media.

MINIMUM HARDWARE REQUIRED:

One of the following:

- DATASYSTEM 310
- DATASYSTEM 308
- DECstation 78/50, 78/70, 88/50, 88/70, or 88/80

OPTIONAL HARDWARE:

- Up to a system total of two dual drive floppy disk systems
- One LA180, LQP, or LA35 printer (LA35 on DS310 configuration only).
- Additional memory up to a system total of 64K bytes on DS310 configurations only
- RK8-E with up to four (4) RK05 disk drives on DS310 configuration only

PREREQUISITE SOFTWARE:

None

OPTIONAL SOFTWARE:

COS-310/2780 Communications Software (on DS310 configurations only)

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:

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.

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 option is a license to copy the software previously obtained under license, and use such software in accordance with DIGITAL's Standard Terms and Conditions of Sale. The category of support applicable to such copied software is Category C.

The following key (X, Y) represents the distribution media for the product and must be specified at the end of the order number, e.g., QF310-HX = binaries on RX02 floppy disk.

X = RX02 Dual Density Floppy Diskette
Y = RX01 Floppy Diskette

Standard Options

This software is available only for the systems listed in the minimum hardware section of this SPD, and is offered with support services (includes hardware, sin-

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gle-use license, binaries, documentation, and support services). Systems are also available which include a single-use license only (no binaries, no documentation, and no support services).

Update Options

Users of COS-310 whose specified Support Category warrant has expired may order the following software update at the then current charge for such update, for use under the existing license. Except where the media is designated as Z, the update is distributed in source or binary form on the appropriate medium. A software update where the media is designated as Z grants the user of COS-310 the right to copy the previously ordered QF310-H or QF310-W software update for use on an additional single CPU for which a COS-310 license has been obtained.

QF310 -H— Binaries, documentation (media: X, Y)

QF310 -H— Right to copy for single use (under existing license), no binaries, no documentation, no support services (media: Z)

Users of COS-310 whose specified Support Category warranty has not expired may order under license the following software update for the then current media charge. The update is distributed in binary form on the appropriate medium and includes no installation or other services unless specifically stated otherwise.

QF310 -W— Binaries, documentation (media: X, Y)

Miscellaneous Options:

QF310 -G— Pre-delivery kit (media: Z)

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.