

# Software Product Description

PRODUCT NAME: COBOL-81/RSTS/E, Version 3.1

SPD 13.16.12

## DESCRIPTION

COBOL-81/RSTS/E is a high-level language for business data processing that operates under control of the RSTS/E Operating System. It is based on the 1985 ANSI COBOL Standard X3.23-1985 and includes all of the features necessary to achieve the intermediate level of that standard. COBOL-81/RSTS/E is a subset of VAX COBOL and includes various Digital Equipment Corporation extensions to COBOL, including screen handling at the source language level. COBOL-81/RSTS/E also supports the ANSI-1974 standard, and both standards are switch selectable using the /STA:V2 or /STA:85 switches.

COBOL-81/RSTS/E conforms to the intermediate level of "FIPS PUB 21-2, Federal Standard COBOL." Many of the individual modules are designed to meet the high-level requirements, as described below:

ANS-85 MODULE	Level Supported by COBOL-81	FIPS PUB 21-2 Requirements for High Level
Nucleus	2*	2
Table Handling	2	2
Sequential I/O	2	2
Relative I/O	2	2
Indexed I/O	2	2
Segmentation	2**	2
Library	1+	2
Debug	***	2
Interprogram Communication	1	2
SORT/MERGE	1	2
Communication	-	-

\* The Nucleus module complies at level 2, except that the ALTER statement and the ALPHABET IS literal clause are not included.

\*\* The Segmentation module complies at level 2, except that independent segments from level 1 are not included.

\*\*\* COBOL-81 uses the PDP-11 Symbolic Debugger, which can be substituted for the Debug module at all but the high level.

+ The Library module includes a partial level 2 REPLACING facility.

VAX COBOL and COBOL-81 share many common features. These features are implemented with the same syntax and semantics on both compilers. In this way, source code developed using COBOL-81 can be migrated to VAX COBOL. Additionally, VAX COBOL can be used to develop source code that will eventually be compiled using COBOL-81.

The following Digital extensions to COBOL are implemented in COBOL-81:

- Screen handling is implemented as extensions to the DISPLAY and ACCEPT statements. The DISPLAY statement enables the programmer to display information or prompts anywhere on a video screen. The ACCEPT statement takes information typed anywhere on the screen and returns the value to a running COBOL-81 program. If requested, the ACCEPT statement can convert data to a numeric format. Supported terminal-types are recognized at run-time from information provided by the operating system.
- RMS-STC and RMS-STV special registers can be examined to assist debugging. These registers contain status values from the RMS file system.
- File sharing features enable more than one user to access data at the same time.

The following utilities are provided to assist the COBOL-81 programmer:

- BLDODL (Build ODL)—Merges Skeleton Overlay Descriptor Language (SKL) files generated by COBOL compilation into a single Overlay Descriptor Language (ODL) file.
- RFM (ReFormat)—A utility that converts source programs from terminal format to conventional ANS COBOL and vice-versa.

COBOL-81 consists of a compiler and an Object Time System/Library. The compiler produces an object module from a source program. The compiler is capable of producing a source listing with embedded diagnostics indicating the line and position of a source-code error, a

data-name map, a procedure-name map, and a cross-reference listing in alphabetical order.

Object modules produced by the compiler can be linked with other object modules produced by either the MACRO-11 or COBOL-81 language processor. These subprograms are accessed with the CALL statement.

COBOL-81 file I/O operations are controlled through the RMS data management software. This method of record I/O supports sequential, relative, and indexed file operations.

COBOL-81 also supports the Commercial Instruction Set (CIS).

### HARDWARE REQUIREMENTS

Any valid RSTS/E system configuration that includes the following:

- A user area of at least 48 Kbytes of memory if using an RMS resident library, 52 Kbytes for other applications
- At least 4,600 free blocks of on-line storage on the public disk structure, plus additional space for user programs and data files

*Block Space Requirements (Block Cluster Size = 1):*

Disk space required for installation:	4,600 blocks (2.4 Mbytes)
Disk space required for use (permanent):	4,600 blocks (2.4 Mbytes)
Contiguous space required:	2,000 blocks (1.0 Mbytes)

These block counts refer to the disk space required on the system disk. The sizes are approximate; actual size may vary depending on the user's system environment, configuration, and software options selected.

### OPTIONAL HARDWARE

- Any mass storage or terminal device supported by the prerequisite software, except TU56 DECTape and TU58 DECTape II.
- KEF11-BB Commercial Instruction Set for PDP-11/24.
- KE44-A Commercial Instruction Set for PDP-11/44.
- A VT300 family, VT200 family, or VT100 family terminal is required for the screen handling extensions to the ACCEPT and DISPLAY statements.

### SOFTWARE REQUIREMENTS

- RSTS/E Operating System

Refer to the RSTS/E Optional Software Cross Reference Table (SPD 20.97.xx) for the required version.

### OPTIONAL SOFTWARE

- PDP-11 Symbolic Debugger/RSTS/E, V2.0–V2.2

### GROWTH CONSIDERATIONS

The minimum hardware/software requirements for any future version of this product may be different from the requirements for the current version.

### ORDERING INFORMATION

The distribution Media Codes are described below. Specify the desired Media Code at the end of the Order Number (e.g., QJ993-HD = binaries on 9-track 800 BPI Magtape (NRZI)).

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 V = RK07 Disk Cartridge

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<sup>1</sup> High-end systems, all UNIBUS models and systems

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Documentation-Only Option QY993-GZ

Installation Service Option QY993-I\* (Media 5, H, M)

DECsupport Service QY993-9\* (Media 5, H, M)

Basic Service QY993-8\* (Media 5, H, M)

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\* Denotes variant fields. For additional information on available licenses, services, and media, refer to the appropriate price book.

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