

# Software Product Description

PRODUCT NAME: OS/8, Version 3C, Operating System

SPD 4.1.7

## DESCRIPTION:

OS/8 is a comprehensive library of system programs operating under the supervision of an executive. OS/8 reduces the time required for program development, increases throughput at dedicated data processing installations, and provides system management.

Programmers can take advantage of OS/8 features by storing data files or executable programs in a system library. The programmer can then access the files or programs for loading, modification or execution by issuing single keyboard commands at the console terminal. OS/8 allows program chaining, so that a program can be divided into a set of smaller programs. Very large programs can be coded in small segments that can be overlaid during execution to conserve memory storage.

Programs written under OS/8 can be device independent coded. Program I/O is performed by standard calls to the system device handlers and the I/O supervisor User Service Routines. This feature permits programs to be written without regard for the characteristics of a particular I/O device. When a device independent program is executed, the user enters a runtime I/O specification command selecting the I/O devices to be employed during program execution. As the system configuration grows, device independent programs can use the new I/O capabilities immediately, with no rewriting or reassembly.

Every OS/8 system is easily extended to include additional peripheral devices. Fully supported I/O device options include high- or low-speed paper tape equipment, card readers, line printers, a selection of hard copy or CRT console terminals, and a variety of disk and magnetic tape mass storage devices. Device independence can be maintained even for nonstandard devices. Nonstandard devices are added to the system by coding a 1- or 2-page device handler and appending it to the standard device handlers supplied with the system.

OS/8 Monitor System Programs include:

*CCL (Concise Command Language)* provides the user with a set of easy-to-use terminal commands. The OS/8 version of CCL is similar to that of TOPS-10, the DECsystem-10 Monitor. Typical commands available in CCL include: COPY, DIRECTORY, HELP, RENAME, LIST, and DELETE.

The OS/8 version of *EDIT* incorporates all features of the stand-alone package and provides I/O device independence under the OS/8 Operating System.

*PAL8* is an extended assembler that runs under the OS/8 Operating System. It includes some of the features of both PAL III and MACRO-8, plus additional features such as conditional assembly, expanded symbol table (allowing over 1500 entries on a 12K word system), hash symbol table search, extended pseudo-operations, and paginated listings with page headings and numbered pages.

*ABSLDR* is the OS/8 absolute loader program which reads a binary program into memory and creates a resident memory image suitable for addition to the system library or for immediate execution.

*ODT (Octal Debugging Technique)* allows the user to run prototype programs under carefully controlled conditions, modify programs during execution, or monitor the state of main memory and the major registers. The OS/8 version of ODT does not require any memory other than certain areas of the 256-location resident monitor. It is swapped into memory from the system device whenever required, while overlaid portions of the running program are saved on the device for later restoration.

*PIP (Peripheral Interchange Program)* is the file manipulation routine. OS/8 PIP can transfer ASCII, memory image, or binary files from one device to another. PIP can also merge or delete files and list, zero, or compress file directories.

*FOTP (File-oriented Transfer Program)* allows the user to transfer groups of files between two OS/8 file-structured devices with minimum terminal interaction and device overhead. For example, all ASCII files can be transferred between a DECtape and disk with one command.

*OS/8 FORTRAN II* is a complete FORTRAN II programming system consisting of: FORT, the FORTRAN compiler; SABR, a symbolic assembler for binary relocatable programs; and LOADER, the linking loader that accepts an open-ended list of relocatable binary files and generates a memory image suitable for saving or execution. The FORTRAN II system includes such features as Hollerith constants, implied DO loops, program chaining, and mixed FORTRAN and assembly language statements.

**BUILD**, the system generation program for OS/8, allows convenient generation or reconfiguration of any OS/8 system. BUILD is most frequently employed to insert or delete system I/O device handlers to permit the system I/O structure to be tailored to a particular application.

**CREF** (Cross Reference Utility Program) aids the development programmer in writing, debugging and maintaining assembly language programs by providing the ability to locate all references to a particular symbol. Input is supplied to the OS/8 version of CREF in the form of an ASCII listing file produced by either PAL8, RALF, or the SABR assembler.

**SRCCOM** (Source Compare) compares two source files line by line and creates a third file listing all differences between the two sources.

**PIP10** allows the user to transfer ASCII files between DECsystem-10 DECTapes and OS/8 devices. This utility runs only on a PDP-8, 8/I, 8/L, 8/E, 8/M, or 8/A equipped with either TC08 or TD8E DECTape.

NOTE: OS/8 is functionally equivalent to OS/12, the operating system for the PDP-12.

#### MINIMUM HARDWARE REQUIRED:

- PDP-8 with 8K words of memory
- At least 64K words of mass storage
- Console terminal (LT33, LT35, LA30, LA36, VT05, VT50, VT52)

#### OPTIONAL HARDWARE SUPPORTED:

- Additional memory to a system total of 32K words
- TM8-E Magnetic Tape controller and transport
- TA8-E DECCassette controller and dual drive
- RK8-E, RK08, DF32 or RF08 Disk system
- TC08 or TD8-E DECTape controller and dual transport with MR8-E ROM
- LS8-E, LE8-E, or LV8 Line printer
- CR8-F or CM8-F Card reader
- TP8-E High-speed paper tape reader/punch
- RX8 Single or Dual Floppy Disk system
- KS33 Low-speed paper tape reader/punch

#### PREREQUISITE SOFTWARE:

None

#### OPTIONAL SOFTWARE SUPPORTED:

None

#### TRAINING CREDITS:

None

#### SUPPORT CATEGORY:

B. Software Support will be provided as listed in the Software Support Categories Addendum to this SPD.

#### UPDATE POLICY:

During the first year, Update Policy shall be in accordance with the Software Support Categories Addendum to this SPD. 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.

Source and/or listing options are only available after the purchase of at least one supported binary license and after a source license agreement is in effect.

The following key (A, B, C, E, N, R, Y, Z) represents the distribution media for the product and must be specified at the end of the "Q" number, i.e., QF015-AC = binaries on DECTape.

A = Linc Tape  
 B = Paper Tape  
 C = DECTape  
 E = RK Disk (DECpack)  
 N = Cassette (TU60)  
 R = Microfiche  
 Y = Floppy Disk  
 Z = No hardware dependency

#### Standard Options

QF015 -A— Single-use license, binaries, documentation, support services (media: B, C, N, Y)

QK015 -A— Single-use license, binaries, documentation, support services (media: A)

*Source/Listing Options*

QF015 -E- All sources (media: C, E, Y)

QK015 -E- All sources (media: A)

QF015 -F- Listings (media: R)

*Update Options*

Users of OS/8 Version 3 or later whose Standard Binary Program Update Service has expired, may purchase the following. The update distributed in binary form on the appropriate medium includes no installation or other services unless specifically stated otherwise.

QF015 -H- Binaries, documentation, no support services (media: B, C, N, Y)

QK015 -H- Binaries, documentation, no support services (media: A)

QF015 -N- Source update (media: C, E, Y)

QK015 -N- Source update (media: A)

**ADDITIONAL SERVICES:**

QF015 -S- Orientation Services (media: Z)

