

Software Product Description

PRODUCT NAME: DOS/BATCH, Version 10.04

SPD 12.15.7

DESCRIPTION:

The DOS/BATCH, Version 10-04 disk operating system for the PDP-11 is both a keyboard-oriented program development system and a batch-oriented job processing system. The system monitor provides development and application support by giving easy access to a full range of system programs and utilities such as a MACRO assembler, editor, linker, and an ANSI Standard FORTRAN IV plus a complete debugging package. Job and system accounting information are provided by the BATCH facility.

DOS/BATCH, Version 10-04 is transportable across differently configured systems and has a simple system generation procedure. The system is easy to use, requires minimum operator intervention and has an easily learned Batch Command Language. It includes a full complement of field-tested systems programs as well as user file identification and protection.

The monitor provides input/output transfers at different levels ranging from the direct access of device handlers to data formatting capabilities, while providing the convenience of device independence. The user can write programs without concern for specific input/output devices; he need only select the most effective or convenient device available for the function to be performed. Input/output transfers are interrupt-driven and concurrent. The user selects either TRAN level (device handler level), READ/WRITE level (formatted sequential level) or RECORD/BLOCK level (file-structured, random access level).

The file system on secondary storage uses two user-specified file structures, linked and contiguous. Linked files can grow serially with no logic limit on their size. Contiguous files must have their lengths declared before use, but can be randomly accessed by RECORD/BLOCK level input/output requests. Files can be specified and referenced by name by a specific user, and also protected by that user against unauthorized use.

In interactive mode, the user communicates with the monitor through keyboard instructions called commands. The keyboard commands enable the user to load and run programs, assign input/output devices or files, modify and dump memory contents, and retrieve system information.

Programmed monitor requests are available to the user through the MACRO assembly language. The requests are made through macros which are assembled into the user's program and which specify the operation to be performed by the monitor. The monitor is divided into logical modules, and monitor routines can be overlaid into memory as needed, or made permanently resident before or during the execution of a particular program.

Version 10-04 of DOS/BATCH includes an English language diagnostic facility. In addition, the RX11 is supported as a storage device only.

Built into the system is an Error Logger for diagnosing hardware errors which can be used to log errors on user implemented devices. The module is optionally included during the monitor's initial dialogue and is thereafter transparent to the user.

In BATCH mode, sequences of keyboard commands are concentrated into simple Batch Command Language (BCL) statements. BATCH streams are controlled by sets of BCL statements which are read by the system from both file-structured and non-file structured devices.

The following system programs and utilities are supported by DOS/BATCH and are supplied with and included in the license to use DOS/BATCH binaries.

EDIT-11 Text Editor is used to edit ASCII files interactively by using keyboard commands. The user can prepare a source program or any text file; locate text within a file by string comparison or line, to change, delete or append sections of text; store long command strings in a "macro" area for repeated use; and merge two files from two different input sources.

PIP-11 Peripheral Interchange Program is used to perform file handling, including transfers, directory listings and file renaming for file devices. It performs ASCII or binary transfer for keyboard devices. PIP-11 can also be used to allocate contiguous files, change protection codes, initialize a device directory, and merge or transfer a group of files from one device to another.

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LINK-11 Linker is used for the linking and relocating of assembled or compiled user programs. LINK-11 can operate on binary output (object modules) to relocate each module and assign absolute addresses. It creates a load module which can be loaded by the monitor and executed and it builds the necessary files in an overlay environment.

ODT-11R On-line Debugging Technique is used to aid in the debugging of assembled and linked object programs (load modules). By interaction through the terminal keyboard the user can: examine and alter memory location contents; run a portion of a program using the breakpoint feature; search for specific bit patterns, or locations which reference other specific locations; calculate offsets for relative addresses; and fill a block of words or bytes with a designated value.

LIBR-11 Librarian is used to simplify the linking operation by allowing the user to place debugged object modules in a library for later reference by LINK-11. LIBR-11 provides facilities for creating, modifying, deleting, and listing of contents of libraries.

MACRO-11 Assembler provides the user with: relocatable object modules with global symbols; program sectioning and conditional assembly directives; user-defined and system supplied macros; symbolic cross referencing and alphabetized, formatted symbol table listings; and input/output file specifications with program and command string control of assembly functions.

FORTTRAN IV compiler and Object Time System provides ANSI Standard FORTRAN, including random access input/output statements, ENCODE/DECODE and IMPLICIT statements, overlay capability through LINK-11, and single and double precision floating point formats. Also included are mixed-mode expressions for array subscripts, hexadecimal and octal constants, and general mixed-mode expressions for all standard and complex data types. The user can list source programs, compiled programs in object code format, internal and external program symbols, and program errors.

The complete set of DOS/BATCH, Version 10-04 system programs appears below:

- DOS/BATCH - Monitor
- CILUS - Core Image Update - Save Program
- EDIT - Editor
- ERLIST - Error Log Analyzer
- MACRO - Assembler
- LINK - Linker
- LIBR - Object Module Librarian
- ODT - Debugging System
- PIP - File Utility Program

- CREF - Symbolic Cross-Reference Listing Program
- FORTRAN IV - Compiler
- FILCOM - File Comparison Program
- FILDMP - Disk File Debugger
- VERIFY - Disk Verify Program
- EBASCI - EBCDIC to ASCII Conversion Program
- DSKINT - Disk Initializer
- ROLLIN - Device to Device Fast Copy Program
- REDUCE - Monitor Reduction Aid
- CTBACK - Cassette Save and Restore Program

MINIMUM HARDWARE REQUIRED:

- Any PDP-11 Central Processor except 11/03, 11/04
- 16K words of Memory
- RF11 256K word fixed-head disk system, or RK11 1.2M word removable cartridge DECpack disk (16K words memory minimum), or RP11-C 20M word disk pack (24K words memory minimum and TU10 or TU16 magnetic tape)
- BM792-YB or MR11-DB Bootstrap
- Console Device
- TU10 or TU16 Magnetic Tape or TC11 DECtape Unit
- KW11-L Line Clock

OPTIONAL HARDWARE:

- Additional memory to a system total of 28K words
- CR11, CD11, or CM11 Card Reader
- LP11 or LS11 Line Printer
- KW11-P Programmable Clock
- KE11-AB EAE Extended Arithmetic Unit
- KE11-E EIS Extended Instruction Set (11/40)
- KE11-F FIS Floating Point Instruction Set (11/40)
- FP11-B,C FPP Floating Point Processor (11/45, 11/70)
- PR11 or PC11 Paper Tape Reader/Punch
- TA11 Cassette Tape
- RX11 Floppy Disk

PREREQUISITE SOFTWARE:

None

OPTIONAL SOFTWARE:

None

TRAINING CREDITS:

None

SUPPORT CATEGORY:

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

UPDATE POLICY:

No updates are planned for this product

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 binary license and after a source license agreement is in effect.

The following key (C, D, E, F, P, R, Z) represents the distribution media for the product and must be specified at the end of the "Q" number, i.e., QJ270-CD = binaries on 9-track magnetic tape.

- C = DEctape
- D = 9-track Magnetic Tape
- E = RK05 Disk
- F = 7-track Magnetic Tape
- P = 9-track Magnetic Tape (MASSBUS only)
- R = Microfiche
- Z = No hardware dependency

Standard Options

- QJ270 -C— Single-use license, binaries and documentation for Monitor, System Programs, FORTRAN Compiler and OTS, no support services (media: C, D, E, F, P)
- QJ250 -D— Single-use license only for Monitor, System Programs, FORTRAN Compiler and OTS, no binaries, documentation or support services (media: Z)
- QJ252 -D— Single-use license only for Monitor and System Programs, no binaries, documentation, or support services (media: Z)
- QJ035 -D— Single-use license only for FORTRAN Compilers and OTS, no binaries, documentation, or support services (media: Z)

Source/Listing Options

- QJ271 -E— Sources for Monitor and System Programs and Device Drivers (media: C, D, E, F)
- QJ271 -F— Listings of Monitor and System Programs and Device Drivers (media: R)

QJ037 -E— Sources for the FORTRAN Compiler and OTS (media: C, D, E, F)

QJ037 -F— Listings of FORTRAN Compiler and OTS (media: R)

Update Options

Users of DOS/BATCH whose specified Support Category warranty has expired, or whose Standard Program Update Service has expired, may order under license the following software update at the then current charge for such update. The update is distributed in source or binary form on the appropriate medium and includes no installation or other services unless specifically stated otherwise.

QJ270 -H— Single-use license, binaries and documentation for Monitor, System Programs, FORTRAN Compiler and OTS, no support services (media: C, D, E, F, P)

Users of DOS/BATCH 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 source or binary form on the appropriate medium and includes no installation or other services unless specifically stated otherwise.

QJ270 -W— Binaries, documentation (media: C, D, E, F, P)

ADDITIONAL SERVICES:

None

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