Software
Product
Description

DESCRIPTION

RSX-11M is a disk based, real-time operating system that runs on any UNIBUS PDP-11 processor, the PDP-11/23, the PDP-11/23-PLUS, and the PDP-11/70. It provides an enviroment for the development and execution of multiple real-time tasks (program images) using a priority structured, event-driven scheduler. System generation allows the user to continue the software for systems ranging in size from small 32K byte systems to large 3840K byte systems.

Program development and real-time tasks can execute concurrently in systems with at least 48K bytes of memory. The system's software priority levels enable the user to compile/assemble, debug, install and execute tasks without affecting real-time task response.

A multiuser, program development facility is available for systems with a recommended minimum of 64K bytes of memory. LOGIN/LOGOUT, password protection, device access protection, a round robin scheduler (running under the real-time executive), and concurrent execution of equal priority tasks via executive level swapping are provided. All systems have the MCR command interface. Mapped systems can select the easier-to-use Digital Command Language (DCL), with MCR or DCL selectable on a per terminal basis.

Tasks can be written in MACRO-11 assembly language, or in optionally available FORTRAN-77, COBOL-81, CORAL 66, and BASIC-PLUS-2. Shareable libraries and system support for user-created libraries are provided. The EDI and EDT editors, utilities, symbol cross-reference, interactive debugger, and task memory dump facilities are provided to assist task development and checkout.

The RSX-11M file system provides automatic space allocation and file structures for all block-structured devices. Features include file protection, device independence and logical device assignment.

During system generation the user can select a minimum 4K byte version of the resident file system to conserve space. Multiheader file support is provided, which enables file size to be limited only by the capacity of the volume on which it resides.

In addition, two record access mechanisms are provided (FCS and RMS). Sequential, random, and realitive (RMS-11) file organizations are provided. Multi-keyed Indexed Sequential Access Method (ISAM) files are supported with the supplied RMS-11 routines. The use of the File Control Services (FCS) will increase the user task size by approximately 2K to 8K bytes, depending on the number of open files and the services desired. The Record Management System (RMS) requires at least 8K bytes per task.

Indirect command file support provides extremely powerful batch-like facilities. A terminal user can create a file containing system commands. The system can then be instructed to execute the commands in the files without operator invention. The indirect file processor can be executing command files concurrent with real-time task execution.

Most PDP-11 processors have Memory Management available that provides logical to physical memory mapping. If the configuration does not include hardware memory management, the system can support between 32K and 56K bytes of memory. If the configuration includes hardware memory management, RSX-11M can support between 56K and 3840K bytes of memory. RSX-11M provides the same primary services in mapped and unmapped systems; however, some supplied optional features and seperately licensed software options require hardware configuration larger than the minimum supported systems.

Memory is logically divided into partitions in which tasks are loaded and executed. Activity in a partition can either be user-controlled or system-controlled; the user determines the placement of tasks in the former, and the system controls the placement of tasks in the latter. Automatic memory compaction minimizes fragmentation of a system-controlled partition. Unmapped systems support only user-controlled partitions. Mapped systems support both user-controlled and system-controlled partitions.

Real-time interrupt response is provided by the system's task scheduler that recognizes 250 software priority levels. The user-specified task priority determines the task's eligibility to execute. A task can be fixed in a partition to ensure immediate execution

when it is activated, or it can reside on disk while it is dormant to make memory available to other tasks. Task checkpointing enables tasks to be displaced from a partition to enable a higher priority, nonresident task to execute.

Software-supported Reliability Features

- Processor error logging (PDP-11/44, 11/45, 11/50, 11/55, 11/60, 11/70)
- Disk and magnetic tape error logging
- Power fail restart
- On-line device exercisor (IOX) to verify correct operation of disks and tapes

Optional RSX-11M Features

- Logical device assignments
- Magnetic tape character set translation
- Line printer spooling
- Loadable device drivers
- Post-mortem and snapshot dump facility
- Crash dump analyzer facility
- Host for RSX-11S systems
- Optional full-duplex terminal driver that supports DMA output (with DH11 interface) and the DL11-E with modem control
- RMS sequential, indexed sequential, and relative file access
- Direct connect of user task to hardware interrupts
- Memory management facilities

SOURCE CODE INFORMATION

Source code modules for the RSX-11M Executive and privileged code are provided with binary, single-use license options on all available distribution media in order to generate an RSX-11M system customized for the user via sysgen.

This source code is provided on an **"AS IS"** basis without any warranty of any kind either express or implied.

MINIMUM HARDWARE REQUIRED

For System Generation

Processor - Any UNIBUS PDP-11 processor, PDP-11/23, PDP-11/23-PLUS, MICRO/PDP-11, PDP-11/23S, or PDP-11/70

Memory - 128K bytes

Console - DL11, DLV11, or compatible interface

Clock - Can be KW11-L, KW11-P, or DL11-W if not provided by processor or bootstrap

Disk - Dual RL01/02, dual RK06/07, RA60/80/81 RM02/03/05/80 , or RP04/05/06.

Tape - For all RA60/80/81, RM02/03/05/80 and RP04/05/06 systems, a 9-track (except TS03) tape from the optional hardware list is required.

For System Execution

Processor - Any UNIBUS PDP-11, PDP-11/23, PDP-11/23-PLUS, MICRO/PDP-11, or PDP-11/70

Memory - 32K bytes without RA60/80/81 support, 128K bytes with RA60/80/81 support

Console - DL11, DLV11 or compatible interface

Clock - May be KW11-L, KW11-P or DL11-W if not provided by processor or bootstrap Hard disk from optional hardware list and appropriate backup device

The basic 32K byte RSX-11M system provides approximately 16K bytes of memory for user tasks and 16K bytes of memory for system space. Additional executive services and device drivers can be selectively incorporated into the system at increased memory space usage. The following are contained in the basic system memory space:

- Executive
- File System Primitives (4K version)
- Operator interface task (MCR)
- Task Loader
- Space for three device drivers
  One system disk driver
  A small terminal driver supporting a single DL11 line
  One other driver (excluding ICS11/ICR11)

A minimum of 56K bytes is required for mapped systems or where it is desired to perform concurrent program development and application execution.

Although magnetic tape drives are supported in a 32K byte system, the recommended memory for tape support is 56K bytes.

OPTIONAL HARDWARE

NOTE: In some cases not all hardware features of the following options are supported. Hardware and software restrictions can limit the number of devices that a given system can support.

- Additional memory to a system total of 56K bytes on systems that do not include the hardware memory management unit, or 3840K bytes on systems that include the hardware memory management unit.
- KT11 Memory Management Unit (requires a minimum of 56K bytes of memory)
- KT24 PAX Module (required on 11/24 for greater than 248K bytes memory support)
- KE11-A,B Extended Arithmetic Element (supported only on systems that do not include a memory management unit)
- KE11-E Extended Instruction Set
- KE11-F Floating Instruction Set
- FP11 Floating Point Processor
- KEF11-AA Floating Point Processor
- FPF11 Floating Point Processor
- KW11-Y Watch-dog Timer Clock

I/O Peripherals

- PR11 paper tape reader or PC11 paper tape reader/punch
- CR11 or CM11 card reader
- VT11/VS60 Graphics Display processor and scope except on PDP-11/24, 11/44, or 11/70 when 22-bit addressing in the first   56K bytes of physical memory.

- LA35, LA180, LS11, LP11, or LV11 line printer (no plotter support)
- KMC11-A Auxiliary processor as a line printer DMA interface
- LP27 with LP11 interface

9-Track Magnetic Tape Drives

- TU10, TS03, TU10W, TE10 800 BPI tape drives
- TU16, TE16, TU45, TU77 800/1600 BPI tape drives
- TS11 1600 BPI tape drive
- TU80
- TSV05

Other Magnetic Tape Devices

- TA11 dual drive cassette tape system
- TU58 DECtape II Cartridge with DL-11 or DLV-11 controller*
- TC11 DECtape controller and dual transport

* Note: The TU58 should be used only in a stand-alone, lightly loaded enviroment. If used as a file device on a heavily loaded system, it can degrade system performance.

Hard Disk Devices

- RK11 disk cartridge controller with RK05J or RK05F disk drives
- RLV11, RLV122, or RL11 disk cartridge controller with RL01 or RL02 drives
- RK611 disk cartridge controller with RK06 or RK07 disk drives
- RK711 disk cartridge controller with RK06 or RK07 disk drives
- RPR02/RP02 disk pack drives (with RP11 controller)
- RP03 disk pack drives (with RP11 controller)
- RP04, RP05, or RP06, disk pack drives (with appropriate controller)
- RS03 or RS04 fixed-head disks (with appropriate controller)
- RM02, RM03, or RM05 disk pack drives (with appropriate controller)
- RM80 disk drive (with RH70 controller)
- ML11 semiconductor disk emulator (with appropriate controller)
- RA60/80/81 disk drives (with UDA50 controller, 128K bytes memory minimum)
- RQDX1/RD51 drive

Note: With this software product, serious data corruption and/or performance degradation can occur if, in a disk drive with the dual port option, the port select switch is placed in the programmable position.

Soft Disk Devices

- RX11, RX211, and RXV21 floppy disk systems
- RQDX1/RX50 floppy disk system

Terminals

- LA30, LA34, LA36, LA38, LA120, LA180S, LT33, LT35, VT05, VT50, VT52, VT100, VT101, VT102, VT220, VT240 terminals, and VT55, VT105, and VT125 graphics display terminals. (MCR provides

no ESCAPE sequence support on VT50, VT52, VT55.) These terminals are supported when connected to DH11 (with or without DM11-BB), DZ11, DJ11, DL11-A,B,C,D,E, or W, DLV11, DLV11-E,F,J, or DZV11.
- The PC100 is supported as a terminal in VT102 mode
- The PC278 (DECmate-II) is supported as a terminal in VT102 mode
- The PRO 350 is supported as a VT102/VT125 in emulation mode

NOTE: A maximum of 64 terminals is supported.

- RT02 Alphanumeric Display
- RT02-C Alphanumeric Display and Badge Reader

Communications

- DL11-E and DLV11-E single line interfaces
- DP11 synchronous line interface
- DU11 synchronous line interface
- DUP11 synchronous line interface
- DQ11 DMA synchronous line interface
- DA11-B DMA UNIBUS link
- DMC11 interprocessor link
- DMR11 interprocessor link
- DUV11 synchronous line interface
- DZS11 statistical multiplexer

Laboratory/Industrial Control

- AD01-D A/D converter
- AFC11 A/D converter
- DRS/DSS11 Industrial Control System Modules
- UDC11 Universal Digital Controller
- ICS11/ICR11 Industrial Control Subsystem
- IP11 and IPV11 Process Control subsystems

Data Acquisition

One or more of the following subsystems

- LPS11 Laboratory Peripheral Systems
- AR11 Analog Real-Time Systems, Options: DR11-K 16-bit digital I/O option, one per subsystem (bit interrupt capability not supported)
- LPA11-K Laboratory Peripheral Accelerator
- Laboratory I/O Subsystem configured using the following options
  ADK11-KT 12-bit A/D converter with 16-channel multiplexer; one per subsystem
  AD11-K 12-bit A/D converter with 16-channel multiplexer, 16 per subsystem (15 if ADK11 is part of same subsystem)
  KW11-K Dual real-time clock with Schmitt triggers; one per subsystem (clock already included in ADK11-KT, no KW11-K required if one is present)
  AM11-K 48-channel A/D multiplexer with gain ranging; one per AD11-K or ADK11-KT
  DR11-K 16-bit digital I/O option; 16 per subsystem
  AA11-K 4-channel 12-bit D/A converter with scope control; 16 per subsystem
  AAV11-A, ADV11-A, KW11-A, and DRV11 real time options

PREREQUISITE SOFTWARE

None

OPTIONAL SOFTWARE

Refer to the RSX-11M Optional Software Cross Reference Table (20.98.xx) for all available optional software.

SOFTWARE WARRANTY

Warranty for this software product is provided by DIGITAL with the purchase of a license for the product. There is no additional charge. This software product is warranted to conform to the Software Product Description (SPD). This means that DIGITAL will remedy any nonconformance when it is reported to DIGITAL by the customer during the warranty period.

The warranty period is ninety (90) days. It begins when the software is installed or thirty (30) days after delivery to the end user, whichever occurs first and expires ninety (90) days later or one hundred eighty (180) days after release of a subsequent version of the software.

Warranty Service

DIGITAL provides software warranty service worldwide. Service is provided in the country of purchase and is not transferable between countries.

DIGITAL will provide a service location which will accept reporting (in a format prescribed by DIGITAL) of a nonconformance problem caused when using the licensed software under normal conditions as defined by the SPD. DIGITAL will respond to a nonconformance problem in the current unaltered release of the licensed software by issuing correction information such as: correction documentation, corrected code, or notice of availability of corrected code; or a restriction or a bypass. The customer will be responsible for the preparation and submission of the problem report to the service location.

Warranty Exclusion

DIGITAL DOES NOT WARRANT THAT THE SOFTWARE LICENSED TO CUSTOMER SHALL BE ERROR FREE, THAT THE SOFTWARE SHALL OPERATE WITH ANY HARDWARE AND SOFTWARE OTHER THAN AS SPECIFIED IN THIS SPD, THAT THE SOFTWARE SHALL SATISFY CUSTOMER'S OWN SPECIFIC REQUIREMENTS, OR THAT COPIES OF THE SOFTWARE OTHER THAN THOSE PROVIDED OR AUTHORIZED BY DIGITAL SHALL CONFORM TO THE SPD.

DIGITAL MAKES NO WARRANTIES WITH RESPECT TO THE FITNESS AND OPERABILITY OF MODIFICATIONS NOT MADE BY DIGITAL.

IF THE SOFTWARE FAILS TO FUNCTION FOR REASONS STATED ABOVE, THE CUSTOMER'S WARRANTY WILL BE INVALIDATED AND ALL SERVICE CALLS WILL BE BILLABLE AT THE PREVAILING PER CALL RATES.

INSTALLATION

Only experienced customers should attempt installation of this product. DIGITAL recommends that all other customers purchase DIGITAL's Installation Services. These services provide for installation of the software product by an experienced DIGITAL Software Specialist.

DIGITAL's Installation Services can be purchased as part of a Packaged Service Option or bought separately.

ORDERING INFORMATION

DIGITAL provides a wide range of material and service options supporting this software product. Each option is described below. **IF YOU ARE ALREADY FAMILIAR WITH THESE OPTIONS YOU MAY OBTAIN THE ORDERING INFORMATION DIRECTLY FROM THE SOFTWARE OPTIONS CHART.** In most cases you will want to review the following descriptions to determine what options you require.

You will need a separate license for each CPU on which you will be using the software product (except as otherwise specified by DIGITAL). Then you will select the materials and service options you need to utilize the product effectively. You can order the materials and service options individually. But, to ensure that you get the set of services you need and to simplify the ordering process, DIGITAL offers Packaged Service Options designed for your environment and experience level. We recommend that you review these packages based on your individual needs. Not only are they comprehensive but they are economical, since the cost of each package is less than the total cost of the individual service options.

You order the license, materials and services using order numbers of the form: Qxxxx-X?. "Qxxxx" refers to the specific software product, "X" is the license code or material service option and "?" is the selectable media code for machine readable materials.

Single-Use licensed software 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 DIGITAL's copyright notice and any proprietary notices on the software) for use on such CPU.

LICENSE OPTIONS

Single-Use License Option

The Single-Use License is your right to use the software product on a single CPU and it includes your 90 day warranty.

For your first installation of this software product you must purchase as a **minimum:**

- Single-Use License option, and
- Distribution and Documentation option

The license gives you the right to use the software on a single CPU and the Distribution and Documentation option provides the machine readable software and related documentation.

To use this software product on additional CPUs, you must purchase as a **minimum:**

- Single-Use License option

In addition to the right to use, the license gives you the right to copy the software from your original CPU installation to the additional CPU. Therefore, the Distribution and Documentation option is not required, but optional.

PDP-11 Operating System General License Option

The PDP-11 Operating System General License option is a package of single-use licenses which are your right-to-use all of the following operating systems on a single CPU:

RT-11, RSX-11M, RSX-11S, RSX-11M-PLUS, DSM-11, RSTS/E, CTS 300

The General License option provides all the Single-Use License rights described above for each software product except it includes a 90 day warranty only for the first software product to be installed.

You purchase a General License option according to the category to which your CPU belongs. The categories are listed below.

QJB36-UZ	DCT11 Microprocessor Chip
QJB39-UZ	DCF11 Microprocessor Chip
QJB43-UZ	DCJ11 Microprocessor Chip
QJB46-UZ	KD11, KDF11 CPU Modules
QJB51-UZ	11C23 MICRO/PDP-11 Models and Systems
QJB56-UZ	11/03 through 11/23-Plus Models and Systems
QJB66-UZ	11/24 through 11/40 Models and Systems
QJB76-UZ	11/44 through 11/70 Models and Systems

For the first installation of this software product you must as a **minimum:**

- have, or purchase a General License option, and

- Distribution and Documentation option

To use this software product on additional CPUs, you must as a **minimum:**

- have, or purchase a General License option

Migration Option

Current licensed users of RT-11, RSX-11D, and IAS are eligible for the migration option. This is a Single-Use License offered at a reduced price and provides all of the License rights described above.

For your first installation of this software product you must purchase as a **minimum:**

- Migration Option, and

- Distribution and Documentation option

To use this software product on additional CPUs currently licensed for RT-11, RSX-11D, and IAS, you must purchase as a **minimum:**

- Migration option

MATERIALS AND SERVICE OPTIONS

PACKAGED SERVICE OPTIONS

System Start-Up Service Packages (SSSP) are comprehensive sets of services tailored to satisfy your first year startup needs for software service and training. Each package includes, for a fixed price, the Distribution and Documentation and a one year Software Product Service Agreement for this product as well as most dependent software products purchased concurrently. Other service components are included at various SSSP levels. DIGITAL offers three packages for this product:

SSSP Level III is the most comprehensive package designed to support new users, more complex system configurations, and users whose system availability is critical. In addition to a one year Software Product Service Agreement and the Distribution and Documentation materials, this package includes Installation, Orientation and a level of Training services to provide an indepth product understanding.

SSSP Level II is designed for customers with some system experience who want DIGITAL to install their software and assist them in initial system use. In addition to a one year Software Product Service Agreement and the Distribution and Documentation materials, this package includes Installation, Orientation and a level of Training services to expand on existing software product expertise.

SSSP Level I is designed for more experienced customers who want to maintain their own software. This package includes a one year Software Product Service Agreement and the Distribution and Documentation materials. In addition, this package includes a minimal level of Training services necessary to provide required product information.

For more information concerning SSSP, please contact your local DIGITAL sales office.

Distribution and Documentation Option

The Distribution and Documentation option provides the software object code in binary form and the basic documentation. You must have, or order, a Single-Use License to obtain this option. You will need this option to install the software for the first time. You will also need this option to obtain revised versions of the software product when they become available.

If you prefer to receive automatic distribution of revised versions for this product, you must purchase a Software Product Service Agreement.

Software Revision Right-To-Copy Option

The Right-To-Copy option allows a customer with multiple CPU's to copy a revised version of a software product from one CPU to another. Each CPU must be licensed for that product. You first install the revised software on one CPU; then you can make copies for additional CPU's by purchasing the Right-To-Copy option for each additional CPU.

If you prefer to automatically obtain the right-to-copy, you must purchase a Service Right-to-Copy for each additional CPU; this is a service added to a Software Product Service Agreement.

Documentation-Only Option

You can obtain one copy of the basic documentation by purchasing the Documentation-Only option.

Installation Service Option

Installation Service includes those services provided by a DIGITAL Software Specialist to successfully install a software product. Digital's Installation Service accelerates your productive use of this product.

Software Product Service Agreements

DIGITAL offers you a choice of three Software Product Service Agreements to support your software. These agreements provide a set of the following services depending on the agreement selected: remedial and maintenance service, revised versions of the software and documentation, telephone support and newsletters or dispatches containing suggested fixes for known problems.

The level of service you need depends primarily on three factors: (1) your available manpower, (2) your staff's level of expertise, and (3) the importance to you of having your system current and operating at peak efficiency. Our DIGITAL representative can help you select the service best suited to your needs. The agreement types are listed below.

DECsupport Service is designed for people requiring high availability of their system and for customers who need regular access to DIGITAL's technical expertise. It is the most comprehensive support service, offering on-site preventative maintenance and remedial support for critical problems. In addition, it also provides revised versions of the software and documentation, fast response, telephone support and newsletters or dispatches.

BASIC Service is ideal for customers who have their own technical staff but need fast answers to operational questions. The telephone support provided in this service gives you timely answers and solves most software problems. In addition, you get revised versions of the software and documentation, and newsletters or dispatches.

Self-Maintenance Service is designed for customers who require only minimal support but wish to receive revised versions of the software and documentation information from DIGITAL. In addition, the service provides newsletters or dispatches.

All agreements are available to licensed DIGITAL customers on an annual, contractual basis.

A variety of service options may be added to an existing Software Product Service Agreement as follows:

- Customers who want to copy the revised software received under their Software Product Service Agreement onto additional CPUs running that same product may order a Service Right-to-Copy for each CPU, Qxxxx-3Z

- Customers who have a Software Product Service Agreement can obtain an additional copy of the documentation supplied under the Agreement by ordering the Documentation Update Service, Qxxxx-KZ.

- Customers who have a Software Product Service Agreement can obtain an additional copy of the dispatches supplied under the Agreement by ordering the Additional Dispatch Subscription Service, Qxxxx-1Z.

- Customers who have a Basic Service or DECsupport Service Agreement can add additional names to the three who, under the Agreement, may call the Telephone Support Center by ordering the Additional Telephone Support Center Contact Service, Qxxxx-6Z.

TRAINING FROM EDUCATIONAL SERVICES

DIGITAL's Educational Services sells a full spectrum of training products and services to support the installation, maintenance and/or management of DIGITAL software. Course formats vary from seminars to packaged training materials (self-paced instruction and computer-based instruction) to traditional classroom instruction at DIGITAL's 27 worldwide Training Centers. Training is included in most System Start-Up Service Packages (SSSP) and is available for your ongoing training needs for this software product and related products. Course recommendations are listed below and are grouped according to the SSSP available for this product.

The recommended courses for SSSP Level III are:

- RSX-11M/M-PLUS Utilities and Commands
- PDP-11 Assembly Language Programming
- Programming in Macro-11
- Programming RSX-11M in FORTRAN/Macro
- RSX-11M System Manager

The recommended courses for SSSP Level II are:

- RSX-11M/M-PLUS Utilities and Commands
- Programming RSX-11M in FORTRAN/Macro
- RSX-11M System Manager

For a complete listing of course schedules and prices, refer to the DIGEST, Education Services' quarterly publication. For curriculum-specific information, training recommendations and assistance in planning training programs, contact your Educational Services Marketing Representative.

Professional Software Services

DIGITAL Software Specialists are available on a per-call or resident contract basis to help in all phases of software development or implementation. Specialists are available to serve as technical consultants, decision support consultants or business systems analysts. Resources are available to:

- Supplement your programming staff
- Assume project management responsibility
- Develop software
- Assure successful start-up and performance with product specific packaged services

Contact your DIGITAL representative for additional information and ordering details.

SOURCE MATERIALS OPTIONS

You can obtain optional source materials for this software product by signing DIGITAL's Software Program Sources License Agreement and then purchasing the source option(s) you want. The agreement entitles you to use the source materials at one customer facility or location which is specified in the agreement.

Most users do not require source materials. They are used primarily to make modifications to the software product. Source kits provided by DIGITAL do not necessarily contain all source files used by DIGITAL to build binary kits.

Source License and Sources Distribution Option

This option provides you with the machine readable source code for this software product. It gives you the right to use the source code on any CPU at the facility/location specified in the agreement which has a Single-Use License for the object code.

Source License and Sources Listings Option

This option provides you with listings of the source programs for this software product. It gives you the right to use the listings for any CPU at the facility/location specified in the agreement which has a Single-Use License for the object code.

Sources Distribution Option

This option provides you with the revised version of the machine readable source code for this software product.

Sources Listings Option

This option provides you with listings of source code for the revised version of the software product.

Chart

The distribution Media Codes used in the Software Options Chart are described below. You specify the desired Media Code at the end of the Order Number, e.g., QJ738-HD = binaries on D = 9-track 800 BPI Magtape (NRZI).

D = 9-track 800 BPI Magtape (NRZI)   R = Microfiche
H = RL02 Disk Cartridge   T = RK06 Disk Cartridge
M = 9-track 1600 BPI Magtape (PE)   V = RK07 Disk Cartridge
Q = RL01 Disk Cartridge   Z = No hardware dependency

SOFTWARE OPTIONS CHART

NOTE: The availability of these software product options and services may vary by country. Customers should contact their local DIGITAL office for information on availability.

OPTIONS	ORDER NUMBER RL01/RL02 BASED SYSTEMS	ORDER NUMBER RK06/RK07 BASED SYSTEMS	ORDER NUMBER RP04/05/06 BASED SYSTEMS	ORDER NUMBER RM02/03/ 05/80 RP07 BASED SYSTEMS	ORDER NUMBER RA60/ 80/81 BASED SYSTEMS
LICENSE OPTIONS: A LICENSE IS REQUIRED FOR EACH CPU.					
Single-Use License	QJ628-UZ	QJ628-UZ	QJ628-UZ	QJ628-UZ	QJ628-UZ
PDP-11 Operating System General License*	QJBxx-UZ*	QJBxx-UZ*	QJBxx-UZ*	QJBxx-UZ*	QJBxx-UZ*
Migration Option from RT-11, RSX-11D and IAS	QJ740-UZ	QJ740-UZ	QJ740-UZ	QJ740-UZ	
MATERIALS AND SERVICE OPTIONS:					
PACKAGE SERVICE OPTIONS:					
System Start-Up Service Package, Level III	QJ738-BM QJ738-BD QJ738-BH QJ738-BQ	QJ629-BD QJ629-BT QJ629-BM QJ629-BV	QJ637-BD QJ637-BM	QJ737-BD QJ737-BM	QJ676-BD QJ676-BM
System Start-Up Service Package, Level II	QJ738-7M QJ738-7D QJ738-7H QJ738-7Q	QJ629-7D QJ629-7T QJ629-7M QJ629-7V	QJ637-7D QJ637-7M	QJ737-7D QJ737-7M	QJ676-7D QJ676-7M
System Start-Up Service Package, Level I	QJ738-5M QJ738-5D QJ738-5H QJ738-5Q	QJ629-5D QJ629-5T QJ629-5M QJ629-5V	QJ637-5D QJ637-5M	QJ737-5D QJ737-5M	QJ676-5D QJ676-5M
Distribution and Documentation Option	QJ738-HM QJ738-HD QJ738-HH QJ738-HQ	QJ629-HD QJ629-HT QJ629-HM QJ629-HV	QJ637-HD QJ637-HM	QJ737-HD QJ737-HM	QJ676-HD QJ676-HM

* For the complete Option Number, refer to the Ordering information description for this option.

SOFTWARE OPTIONS CHART (Continued)

OPTIONS	ORDER NUMBER RL01/RL02 BASED SYSTEMS	ORDER NUMBER RK06/RK07 BASED SYSTEMS	ORDER NUMBER RP04/05/06 BASED SYSTEMS	ORDER NUMBER RM02/03/ 05/80 RP07 BASED SYSTEMS	ORDER NUMBER RA60/ 80/81 BASED SYSTEMS
Documentation Only Option	QJ628-GZ	QJ628-GZ	QJ628-GZ	QJ628-GZ	QJ628-GZ
Installation Service Option	QJ738-IM QJ738-ID QJ738-IH QJ738-IQ	QJ629-ID QJ629-IT QJ629-IM QJ629-IV	QJ637-ID QJ637-IM	QJ737-ID QJ737-IM	QJ676-ID QJ676-IM
SOFTWARE PRODUCT SERVICE AGREEMENTS:			-		
DECsupport Service	QJ738-9M QJ738-9D QJ738-9H QJ738-9Q	QJ629-9D QJ629-9T QJ629-9M QJ629-9V	QJ637-9D QJ637-9M	QJ737-9D QJ737-9M	QJ676-9D QJ676-9M
Basic Service	QJ738-8M QJ738-8D QJ738-8H QJ738-8Q	QJ629-8D QJ629-8T QJ629-8M QJ629-8V	QJ637-8D QJ637-8M	QJ737-8D QJ737-8M	QJ676-8D QJ676-8M
Self-Maintenance Service	QJ738-3M QJ738-3D QJ738-3H QJ738-3Q	QJ629-3D QJ629-3T QJ629-3M QJ629-3V	QJ637-3D QJ637-3M	QJ737-3D QJ737-3M	QJ676-3D QJ676-3M
SOURCE CODE AND MATERIALS OPTIONS:					
Source License and Sources Distribution for Utilities	QJ638-ED QJ638-EM	QJ638-ED QJ638-EM	QJ638-ED QJ638-EM	QJ638-ED QJ638-EM	QJ638-ED QJ638-EM
Source License and Sources Listings for Utilities	QJ638-FR	QJ638-FR	QJ638-FR	QJ638-FR	QJ638-FR
Source License and Sources Listings** for Executive and I/O Device Driver	QJ628-FR	QJ628-FR	QJ628-FR	QJ628-FR	QJ628-FR
Sources Distribution for Utilities	QJ638-ND QJ638-NM	QJ638-ND QJ638-NM	QJ638-ND QJ638-NM	QJ638-ND QJ638-NM	QJ638-ND QJ638-NM
Sources Listings for Utilities	QJ638-NR	QJ638-NR	QJ638-NR	QJ638-NR	QJ638-NR
Sources Listings for Executive and I/O Device Driver	QJ628-NR	QJ628-NR	QJ628-NR	QJ628-NR	QJ628-NR

**The combination of Executive and Utilities sources does not necessarily comprise all the sources used by DIGITAL to build the binary kits.