

Software Product Description

PRODUCT NAME: **FMS-11/RSTS**, Version 2.1

SPD 13.17.06

DESCRIPTION

FMS-11/RSTS is a forms-oriented, video I/O management system for the RSTS/E operating system. FMS-11/RSTS functions as an independent software front end that makes the complexities of interactive video I/O management transparent to the application program. FMS-11/RSTS is an effective front end for applications with question and answer, menu, or fill-in-the-blank type forms. FMS-11/RSTS provides a controlled, organized method of data display and collection.

FMS-11/RSTS provides a software interface for the MACRO-11 assembly language and the high-level language CALL statements of BASIC-PLUS-2, COBOL-81, FORTRAN-77, and DIBOL.

Forms defined using FMS-11/RSTS can use the following features of DIGITAL's VT200/VT300 terminal:

- Reverse video characters
- Bold characters
- Underlined characters
- Blinking attributes characters
- 132-column lines
- Jump and smooth scrolling
- Reverse video
- 8 Bit-characters

FMS-11/RSTS can be used as a general-purpose manager of operator I/O or as front-end in traditional source data entry applications. Possible FMS-11/RSTS applications range from data base inquiry/response/update to uses uses as periodically displaying the status of a real-time process or accepting control information from the operator for the process.

FMS-11/RSTS application programs can be developed and executed under the RSTS/E operating system. They can be coded in MACRO-11 or one of the following high-level languages:

- PDP-11 BASIC-PLUS-2 for RSTS/E
- COBOL-81/RSTS/E

- PDP-11 COBOL
- DIBOL for RSTS/E
- PDP-11 FORTRAN-77/RSTS/E

FMS-11 forms are data structures created using FED, the interactive form editor. Forms normally reside in form library files on disk and are retrieved as needed by application programs at execution time. This results in a high degree of independence between form definitions and application programs. In many cases form definitions can be modified without requiring recompilation or relinking of the application program.

In the case where extra fast response time required, forms can be linked to applications as a memory-resident form library.

Each data field in FMS-11 forms can be assigned attributes such as validation "picture". Individual position attributes include: alphabetic, alpha-numeric, signed numeric, and any character. Field wide attributes include: right/left justification, zero fill, fixed decimal, response required, display only, echo off and "must complete." A default value and a line of explanatory HELP text can be associated with each field of a form. In addition, a separate HELP display can be associated at the form level.

Another feature of FMS-11/RSTS is "named data." This allows application parameters to be stored and edited with the form as named strings of constant data and retrieved dynamically by name or number during program execution.

FMS-11/RSTS consists of the following software components:

FED (Forms Editor) – Used by the application developer to create and modify video forms by typing them on the screen as they are to appear to the application user. A variety of editing functions can be invoked using the VT200/VT300 function keypad. All form attributes, individual field attributes, and named data constants are assigned in this form editing process. The result of a FED session is an intermediate form file, ready for processing by the Form Library Utility.

FUT (Form Library Utility) – Multi-function utility program for manipulating files of FMS-11/RSTS form descriptions.

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FUT provides a full range of form library management functions, such as merge, insert, update, extract, and delete a form. It can be used to print a complete description of one or more forms in a form library. FUT can produce an object module of forms to be linked with the application when memory-resident forms are desired. Finally, FUT can write out COBOL Data Division code for a form definition, which can then be copied in COBOL programs.

FDV (Form Driver) – Re-entrant subroutine called from application programs to control screen processing. The FDV manages all screen input and output, displays forms, manipulates the screen, performs basic input validation, and responds to the operator's requests for HELP. Applications can interact with the operator one field at a time or on a whole record basis using the form description generated by FED during the form editing process.

FDV can be build as resident library. As a resident library, FDV can be clustered with other resident libraries.

FMS-11 supports instruction and data separation. This allows applications build with I/D separation to have form definition data reside in that address known by the KT11 memory manager as d-space.

All references to fields in a form are by name, so that application programs are not dependent on the physical layout of the form. FDV performs its editing, data preparation, and HELP functions without the knowledge or intervention of the application program.

The Form Driver subroutine library can be linked as part of the application task image or used as a resident library. The Form Driver requires that the "FMS Support" option be included in the operating system terminal driver during RSTS/E system generation.

Source Code Information

Source code for the Form Driver is provided on a 9-track 800 BPI Magtape (NRZI).

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

MINIMUM HARDWARE REQUIRED

Any valid RSTS/E system configuration with:

For Application Execution

The form driver required from 6K to 9K of main memory, depending on the options selected when the Form Driver is generated. An additional 1K bytes is required for interface code if the Form Driver is called from any high-level language.

| TERMINAL | FORM DEVELOPMENT | APPLICATION EXECUTION |
|------------------|------------------|-----------------------|
| VT52 | N | Y |
| VT100 | Y | Y |
| VT100 (with AVO) | Y | Y |
| VT101 | Y | Y |
| VT102 | Y | Y |
| VT125 | Y | Y |
| VT220 | Y | Y |
| VT240 | Y | Y |
| VT320 | Y | Y |
| VT330 | Y | Y |
| VT340 | Y | Y |

Y = Fully Supported
 N = Not Supported
 AVO = Advanced Video Option

For Application Development

- The Form Editor requires 36K bytes and a VT100/VT200/VT300 series terminals
- The Form Utility requires 16K bytes with no special terminal requirements.

OPTIONAL HARDWARE

None

PREREQUISITE SOFTWARE

RSTS/E, at least at Version 9.5

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

Note: FMS-11/RSTS application programs must be developed using MACRO-11 (which is included in the prerequisite operating system) or one of the higher-level languages listed in the Optional Software section. FMS-11/RSTS requires that the operating system be generated with the FMS support option included in the terminal driver.

INSTALLATION REQUIREMENTS

FMS-11/RSTS requires approximately 5000 blocks of contiguous space. 2500 blocks will be freed upon installation completion.

OPTIONAL SOFTWARE

- PDP-11 BASIC-PLUS-2 for RSTS/E
- COBOL-81/RSTS/E
- DIBOL/RSTS/E
- PDP-11 FORTRAN-77/RSTS/E

SOFTWARE WARRANTY

Warranty for this software product is provided by DIGITAL with the purchase of a license for the product as defined in the Software Warranty Addendum of this SPD.

INSTALLATION

This software product can be installed by the customer using the step-by-step documentation available for this product. Optionally, you can purchase DIGITAL Installation Services which provide for the installation of the software product by an experienced DIGITAL Software Specialist.

Courtesy Installation Service

This software product will be installed by DIGITAL at no additional charge if you purchase it concurrent with a Startup Service Package that includes installation service. Both the host operating system and this product must be installed concurrently.

ORDERING INFORMATION

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 that same CPU.

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, Materials and Service Options are selected to utilize the product effectively. **THE LICENSE OPTIONS ARE DESCRIBED BELOW. IF YOU ARE NOT FAMILIAR WITH THE SERVICE OPTIONS, YOU MAY OBTAIN THE APPROPRIATE SOFTWARE PRODUCT SERVICE DESCRIPTION(S) FROM YOUR LOCAL DIGITAL OFFICE.** If you are already familiar with these options, you may obtain the ordering information directly from the Software Options Chart.

LICENSE OPTIONS

Single-Use License Option

The Single-Use License is your right to use the software product on a single CPU.

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 for each CPU as a **minimum**:

- Single-Use License Option

In addition to the right to use, the license gives you the one-time 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.

Single-Use License Option For Forms Driver

If you have FMS-11/RSTS installed on a CPU fully licensed for that product and you wish to use the Forms Driver portion of it on an additional CPU, you can purchase a Single-Use License for Forms Driver. This license gives you the right to use only the Forms Driver and DOES NOT include software warranty.

Distribution and Documentation Option

The Distribution and Documentation Option provides the machine-readable software 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. When revised versions of this software product become available, they may also be obtained by purchasing this option again.

Software Revision Right-To-Copy Option

The Right-To-Copy Option allows a customer with multiple CPUs 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 CPUs by purchasing the Right-To-Copy Option for each additional CPU.

Documentation-Only Option

The Documentation-Only Option provides one copy of the basic documentation.

Software Product Services

A variety of service options are available. For more information on these or other services, please contact your local DIGITAL office.

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.

SOFTWARE OPTIONS 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., QJ716-HD = binaries on 9-track 800 BPI Magtape (NRZI).

- | | |
|------------------------------------|-----------------------------------|
| 3 = RX50 Floppy Diskette | M = 9-track 1600 BPI Magtape (PE) |
| 5 = TK50 Tape Cartridge | V = RK07 Disk Cartridge |
| D = 9-track 800 BPI Magtape (NRZI) | Z = No hardware dependency |
| H = RL02 Disk Cartridge | |

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 CLASS L ² | ORDER NUMBER CLASS H ¹ |
|---|--|--|
| LICENSE OPTIONS: A LICENSE IS REQUIRED FOR EACH CPU. | | |
| Single-Use License | QY716-UZ | QJ716-UZ |
| Single-Use License for Form Driver | QY731-DZ | QJ731-DZ |
| MATERIALS AND SERVICE OPTIONS: | | |
| Distribution and Documentation Option | QY716-H3 QY716-H5 QY716-HD QY716-HH QY716-HM QY716-HV | QJ716-H3 QJ716-H5 QJ716-HD QJ716-HH QJ716-HM QJ716-HV |
| Software Revision Right-To-Copy Option | QY716-HZ | QJ716-HZ |
| Software Revision Right-To-Copy Option for Form Driver only | QY731-HZ | QJ731-HZ |
| Documentation-Only Option | | QJ716-GZ |
| Installation Service Option | QY716-I3 QY716-I5 QY716-ID QY716-IH QY716-IM QY716-IV | QJ716-I3 QJ716-I5 QJ716-ID QJ716-IH QJ716-IM QJ716-IV |
| DECsupport Service | QY716-93 QY716-95 QY716-9D QY716-9H QY716-9M QY716-9V | QJ716-93 QJ716-95 QJ716-9D QJ716-9H QJ716-9M QJ716-9V |
| Basic Service | QY716-83 QY716-85 QY716-8D QY716-8H QY716-8M QY716-8V | QJ716-83 QJ716-85 QJ716-8D QJ716-8H QJ716-8M QJ716-8V |

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|---|--|--|
| Self-Maintenance Service | QY716-33 QY716-35 QY716-3D QY716-3H QY716-3M QY716-3V | QJ716-33 QJ716-35 QJ716-3D QJ716-3H QJ716-3M QJ716-3V |
| SOURCE AND MATERIALS OPTIONS: | | |
| Source License and Sources Distribution | | QJ716-ED |

¹Class H Single-Use License (for high end systems)

- All UNIBUS models and systems

²Class L Single-Use License (for low end systems)

- All Q-BUS models and systems including the MicroPDP-11/83
- KD11, KDF11, KDJ11, CPU models
- DCT11, DCF11, DCJ11 microprocessor chips