

# Software Product Description

PRODUCT NAME: FMS-11, Version 2.2

SPD 12.27.13

## DESCRIPTION

FMS-11/RSX is a product of Mentec, Inc. and is licensed under Digital Equipment Corporation's Standard Terms and Conditions.

FMS-11/RSX is a forms-oriented, video I/O management system for the RSX-11M, RSX-11M-PLUS, and RSX-11S Real-Time operating systems. FMS-11/RSX functions as an independent software front end that logically off-loads the complexities of interactive video I/O management from the application program.

Call statement, high-level language interfaces are provided for applications written in BASIC-PLUS-2 for RSX-11M and RSX-11M-PLUS, FORTRAN-77/RSX, as well as MACRO-11 assembly language. FMS-11/RSX is equally effective for implementing applications with question and answer, menu, or fill-in-the-blank type forms.

Forms defined using FMS-11/RSX can use the following features of DIGITAL's VT100, VT200, and VT300 terminals:

- Reverse video characters
- Bold characters
- Underlined characters
- Blinking characters
- 132-column lines
- Jump and smooth scrolling
- Split screen and reverse screen
- Full 8-bit communication including escape sequences and access to function keys

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

FMS-11/RSX application programs can be developed and executed under the RSX-11M or RSX-11M-PLUS operating systems. They may be coded in MACRO-11 or one of the following high-level languages:

- BASIC-PLUS-2 for RSX-11M and RSX-11M-PLUS
- PDP-11 FORTRAN-77/RSX

FMS-11/RSX applications can be executed under the RSX-11S operating system, provided that all required forms are linked with each application as a memory-resident form library.

FMS-11/RSX 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 is required or in an RSX-11S environment with no mass storage support, 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", embedded text characters, right/left justification, fixed decimal, 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/RSX is "named data". This allows application parameters to be stored and edited within the form as named strings of constant data and retrieved dynamically by name or number during program execution.

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

FED (Form Editor) - Used by the application developer to create and modify video forms by typing them on the screen as they are likely to appear to the application user. In addition, a variety of editing functions may be invoked using the VT terminal series 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/RSX form descriptions. 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 from a form file or library or to list the names of all 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.

FDV (Form Driver) - Reentrant 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 may 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 built as part of a clustered library and the form definition data can be prepared to reside in that address space 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. Furthermore, FDV performs its editing, data preparation, and HELP functions without the knowledge or intervention of the application program. Separate subroutine libraries must be generated for either VT52 or VT100/VT200/VT300 support.

**HARDWARE REQUIREMENTS**

The number of required disk blocks for installation ranges from 3000 to 7000 blocks depending upon the options selected. The amount of permanent disk space required ranges from 1000 to 3000 blocks depending upon options selected.

*For Application Execution:*

The form driver requires from 6K to 9K bytes of main memory, depending on the options selected when the Form Driver is generated. An additional 1K bytes are 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                     |
| VT101          | Y                | Y                     |
| VT102          | Y                | Y                     |
| VT125          | Y                | Y                     |
| VT220          | Y                | Y                     |
| VT240          | Y                | Y                     |
| VT320          | Y                | Y                     |
| VT330          | Y                | Y                     |
| VT340          | Y                | Y                     |

Key:

Y = Fully Supported

N = Not Supported

AVO = Advanced Video Option

*For Application Development:*

The Form Editor requires 36K bytes and one of the VT100/VT200/VT300 series terminals listed above.

The Form Utility requires 16K bytes. It does not require a VT100 terminal.

**SOFTWARE REQUIREMENTS**

*For Application Execution:*

- RSX-11M Operating System
- RSX-11M-PLUS Operating System
- RSX-11S Operating System

*For Application Development:*

- RSX-11M Operating System
- RSX-11M-PLUS Operating System

**Note:** FMS-11/RSX application programs must be developed using MACRO-11 (which is bundled in the pre-requisite operating systems) or one of the higher level languages listed in the Optional Software section.

FMS-11/RSX requires that the operating system be generated with the full-duplex terminal driver, which requires memory management hardware. Execution of the Form Utility (FUT) in a multi-task environment requires that checkpointing to a system file be enabled.

Refer to the RSX-11M and RSX-11M-PLUS Software Product Descriptions (SPD 14.35.xx and SPD 14.70.xx) for the required versions.

**OPTIONAL SOFTWARE**

BASIC-PLUS-2 for RSX-11M and RSX-11M-PLUS  
PDP-11 FORTRAN-77/RSX

**GROWTH CONSIDERATIONS**

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

**MEDIA DISTRIBUTION**

The distribution Media Codes are described below. Specify the desired Media Code at the end of the Order Number, e.g. QJ715-H5 = binaries on TK50 Tape Cartridge.

5 = TK50 Tape Cartridge  
M = 9-track 1600 BPI Magtape (PE)  
Z = No hardware dependency

**ORDERING INFORMATION***License Options:*

For Class L Systems<sup>1</sup>  
Single-Use License: QY715-UZ  
Single-Use License for Forms Driver: QY717-UZ

For Class H Systems<sup>2</sup>  
Single-Use License: QJ715-UZ  
Single-Use License for Forms Driver: QJ717-UZ

**Note:** If you have FMS-11/RSX 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 FMS-11/RSX Forms Driver. This license gives you the right to use only the Forms Driver and does not include software warranty.

*Media and Service Options:*

Software Media/Documentation: QJ715-H\*  
Software Documentation: QJ715-GZ  
Software Product Services: QJ715-\*\*

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

<sup>1</sup> Class L Systems(low-end systems):  
— All Q-bus models and systems  
— KD11, KDF11, KDJ11 CPU modules  
— DCT11, DCF11, DCJ11 microprocessor chips

<sup>2</sup> Class H Systems(high-end systems)  
— All UNIBUS models and systems

**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.

**SOFTWARE LICENSING**

This software is furnished under the licensing provisions of Digital Equipment Corporation's Standard Terms and Conditions. For more information about Digital's licensing terms and policies, contact your local Digital office.

**SOFTWARE PRODUCT SERVICES**

A variety of service options are available. For more information, please contact your local Digital office.

**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.

<sup>TM</sup> The Digital Logo, DEC, FMS-11, KD11, RSX, RSX-11M, RSX-11M-PLUS, RSX-11S, UNIBUS, VT52, VT100, VT220, VT330, and VT340.

