# Software Product Description

# PRODUCT NAME: VAX FMS ARABIC, Version 2.4

# SPD 29.49.00

# DESCRIPTION

The VAX FMS (Forms Management System) ARABIC is designed to aid in the development of Arabic and Latin application programs that use video forms. VAX FMS ARABIC manages the forms for Arabic application programs that use Digital Equipment Corporation's family of Arabic VT320 Version 2.0 terminals.

In addition to providing Arabic functionality when used with the Arabic VT320 Version 2.0, VAX FMS ARABIC maintains full backwards compatibility with the Latin functionality of VAX FMS, Version 2.4 which manages the forms for Latin application programs using Digital's family of VT100, VT200, and VT300-compatible terminals.

VAX FMS ARABIC can be used in Latin-Only mode on Digital's VAXstations operating in VTxxx terminalemulation mode, to create, display, and interact with long forms of up to 54 lines in 80-column mode or 63 lines in 132-column mode. When used in conjunction with the DECnet/SNA VMS Distributed Host Command Facility (DHCF), VAX FMS ARABIC can be used, in Latin-Only mode, and with restrictions, with any IBM® 3270compatible terminal supported by DHCF.

Arabic Forms created using VAX FMS ARABIC can be printed on any Digital printer which is compatible with the Arabic VT320 Version 2.0. Latin-Only forms created using VAX FMS ARABIC can be printed on any Digital printer.

Forms defined using VAX FMS ARABIC provide the programmer with the ability to use the following features of Digital's family of VT100, VT200, and VT300-compatible terminals:

- Individual character attributes of reverse video, bold, blinking, and underline
- Line attributes of double width, double height and scrolled
- Screen wide attributes such as 80 or 132 column lines and reverse video

- Alternate VT100 "special graphics character set" for line drawing
- In Latin-Only mode, additional alternate character sets are available

VAX FMS ARABIC form data structures are used by the ARABIC Form Driver during run-time to display forms, and to access and validate data entered by the terminal operator. Forms can be created and modified interactively with the interactive editing facility (FMS/EDIT) or they can be defined as a source form description with the Form Language and then converted to a form data structure using the Form Language Translator (FMS/ TRANSLATE). (Long forms larger than 54 lines in 80column mode and 63 lines in 132-column mode can only be created and modified with the Form Language Translator.)

Forms usually reside in form library files on disk and are retrieved as needed by application programs at execution time. This arrangement results in a high degree of independence between form data structures and application programs. Forms can be modified without recompilation or relinking of the application program. Forms can also be converted into an object module and linked with application programs to create memory-resident forms, or forms can be dynamically loaded into memory by the application program.

VAX FMS ARABIC applications use the FMS ARABIC Form Driver to control the display of forms, their associated data fields, and the input and output of data into fields. All data input from the terminal and output to the terminal is passed as character strings.

Data for each field in a VAX FMS ARABIC form is validated by the ARABIC Form Driver. Field-validation characters are used to construct a "field validation picture". During program execution, characters input or output to the field are compared with the picture to determine if they are valid. In most instances, the field picture can contain several different field validation characters and also field-marker characters. Field-marker characters, used to improve the readability of the displayed form, are transparent to the application program.

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November 1989 AE-MV15A-TE Attributes from the following list can be assigned to each individual field:

- Name of the Field
- A default value
- A help message
- Autotab\*
- Clear Character\*
- · Display Only
- Fixed Decimal\*
- Indexed
- Left Justify
- Right Justify\*
- Must Fill
- No Echo
- Response Required
- Supervisor Only
- Uppercase\*
- User action routines and associated data parameters
- Zero Fill
- Zero Suppress\*
- \* This feature is either modified or absent when VAX FMS ARABIC is used on a 3270-compatible terminal.

The attributes assigned to each field are checked for validity when the form is created. Some combinations of attributes are not legal. Each form has attributes that apply to the form as a whole. These attributes include:

- Name of the form
- · Name of an associated help form
- Screen background (black, white, or do not change)
- Screen width (80 columns, 132 columns, or do not change)
- · Screen area to clear when displaying the form
- Terminal character set
- User action routines and associated data parameters
- Video attributes to be used if the field being worked on is to be highlighted at run-time
- The order in which fields are to be accessed
- Named Data

Each form has attibutes that control the Arabic/bilingual extensions. These attributes are controlled by reserved name data items and are:

- · Bilingual mode of the form
- · Document presentation direction of the form
- · Line presentation direction of lines on the form

# **VAX FMS ARABIC Utilities**

### Interactive Form Editor

The FMS/EDIT command invokes the interactive editing facility that is used by the form developer to create and modify video forms. The creation of forms with the interactive editing facility is accomplished in phases. The layout phase is used to specify the visual appearance of the form, the background text, and what types of characters are to be valid input to the fields. While laying out a form on the screen, one has available a set of 48 function keys and key combinations. These keys perform functions such as cursor movement, delete and undelete, cut and paste, box drawing, video attribute assignment, centering, and displaying HELP.

Additional phases are used to assign form and field attributes, to enter Named Data, and to assign field access order. Named Data and all form and field attributes, including user action routines, are specified by filling in questionnaires. Highlighting is used to indicate which field is being referred to during the field attribute and the field order assignment phases. Finally, the test phase allows the developer to interact with a form just as the end user would without exiting the editing session.

### Form Language Translator

The Form Language Translator provides an alternate means for defining forms. The Form Language is a freeform, keyword-oriented, declarative language that provides the means to create and modify source form descriptions with a text editor or program.

The FMS/TRANSLATE command is used to convert the source form descriptions (contained in a text file) to form data structures. The data structures created are equivalent to those created with the FMS interactive editor. Existing form data structures can be converted back into Form Language source code for modification or documentation by using the FMS/DESCRIPTION/FULL command.

### Other Form Application Development Aids

The VAX FMS ARABIC Forms Management System provides additional facilities to aid in the application program development process. The facilities are invoked with the following commands:

- FMS/LIBRARY To create and maintain form libraries
- FMS/DESCRIPTION To obtain any of the following basic types of descriptions of forms:
  - /BRIEF Summary information about a form, its fields, Named Data, and user action routines.
  - /FULL Text files containing Form Language statements suitable for input to the Form Language Translator.
  - /DECLARATIONS To obtain data division code that can be edited by the user to create a COBOL Data Division or DATATRIEVE Domain Definition reflecting the names, lengths, and order of fields on the screen.
  - /DISPLAY\_IMAGE A printable image of a Bilingual or a Latin-Only form in either terminal image format (with escape sequences) or line printer format (without escape sequences).

For Latin-Only forms, LN03/LN03 PLUS format is also available. Note that the optionally available VT100/200 Screen Font Cartridge Set is required to actually print Latin-Only forms on the LN03 and LN03 PLUS laser printers with full VT100/200 video attributes. Refer to the section below on Printing Forms for more information.

- FMS/DIRECTORY To obtain a directory list of forms in a library or in form files.
- FMS/OBJECT To generate an object module containing one or more form data structures that, when linked with the application program, will allow access to the forms through virtual memory.
- FMS/VECTOR To generate an object module containing a vector table of addresses that point to the user action routines that are linked with the application program.
- FMS/TEST To invoke the form testing facility which allows the application developer to display a form as an application program would, to type data into fields, and to display field help.
- FMS/CONVERT To convert TDMS forms from the VAX Common Data Dictionary/Plus to FMS forms.
- FMS/UPGRADE To convert VAX FMS, Version 1.1 form files and form libraries to a format compatible with the current version of VAX FMS ARABIC. VAX FMS, Version 1.1 forms are not compatible with the current version of VAX FMS ARABIC; they must be upgraded for use with the current version of VAX FMS ARABIC.

### VAX FMS ARABIC Form Driver

The ARABIC Form Driver is the run-time component of VAX FMS ARABIC. It consists of AST reentrant, shareable subroutines that are called by application programs to control the interaction of the terminal, the user, and the application program. The ARABIC Form Driver provides facilities for managing multiple work areas (each of which contains a single form data structure). Multiple forms can be displayed on a single terminal screen.

ARABIC Form Driver subroutines provide for terminal input and output, display of forms, manipulation of the screen, basic input validation and formatting, calling user action routines, and responding to the terminal operator's requests for help. Input and output can be specified one field at a time or on a whole form basis.

The ARABIC Form Driver has a number of features to facilitate fine tuning of the application human interface. A timeout facility allows the application program to continue execution after waiting a specified period of time for the operator to enter the next character. Field video attributes, cursor position, and Insert/Overstrike mode can be dynamically altered by ARABIC Form Driver calls in the application program. Field highlighting, controlled by the ARABIC Form Driver, causes the video attributes of each field to be altered as the cursor enters the field and to be restored to their original state when the operator exits the field.

The ARABIC Form Driver (FDV) may be purchased separately for systems that require only run-time support for applications using VAX FMS ARABIC.

### Named Data

The ARABIC Form Driver supports the creation of parameter-driven applications by providing Named Data. Named Data are form constants that can be stored as part of the form data structure and retrieved at execution time by calls in the application program. Named Data allows information needed by the application program (such as form linkage, operator messages and other human language information, and data validation criteria for user subroutines) to be defined, stored, and modified independently of the application program.

Three Named data items are used by VAX FMS ARABIC to store information about the bilingual attributes of each form.

### User Action Routines

User action routines (UARs) are procedures written by the user in any Digital supported VMS programming language. UARs are associated with forms and fields during the creation of form data structures and are automatically called by the ARABIC Form Driver under the following conditions:

- When processing for a field is finished
- Before and after processing the terminal operator's help request
- When the terminal operator presses a function key
- When a screen refresh operation is requested

The ARABIC Form Driver transfers program control to the user action routine under the circumstances defined. The user action routine has available to it (through ARABIC Form Driver calls) a parameter string of 80 characters (defined as part of the form) which can be used to give processing information and the current Form Driver context.

# VAX FMS ARABIC Sample Application Program

The Sample Application program is a supported VAX FMS ARABIC demonstration program. The Sample Application program, included in the distribution kit, is used to certify proper installation of VAX FMS ARABIC. The sample programs (in each of the documented programming languages) and form descriptions are included in the documentation and in the distribution kit. The Sample Application Program can be installed on the target system at the user's discretion.

# Printing Forms

Form images can be created and written to a file for subsequent printing by either an application program using ARABIC Form Driver an call FDV\$PRINT\_ SCREEN, or by a terminal operator using an FMS DCL command, FMS/DESCRIPTION/ DISPLAY\_IMAGE. The following screen images can be created:

- Line printer image All video attributes are ignored or translated to formats printable by standard line printers. Line drawing graphic characters are converted to standard ASCII characters and all other characters in alternate character sets remain untranslated.
- Terminal image All escape sequences and control characters are included to present an exact image of the screen if it were to be displayed on the same kind of

terminal as the current terminal. This image can be output properly only to a printer that understands the same control sequences as the current terminal.

 LN03 and LN03 PLUS laser printer image - This facility is available for Latin-Only environments. Escape sequences are included to reproduce a screen image which is printable on an LN03 or LN03 PLUS laser printer. The resident fonts in these printers support the printing of forms which include only single-size characters of the ASCII, DEC Supplemental, and DEC VT100 Line Drawing character sets.

To print VAX FMS ARABIC forms which include the FULL range of character, line, and screen attributes of the VT100 and VT200-compatible terminals (except for blinking), the optionally available VT100/200 Screen Font Cartridge Set must be installed in the LN03 or LN03 PLUS laser printer. This font cartridge set can be ordered from Digital using the following ordering information:

LN03X-DA - VT100/200 Screen Font Cartridge Set

This set of two font cartridges contains all the fonts necessary to reproduce most of the Latin-Only character, line, and screen attributes available on VT100, VT200, and VT300-compatible terminals. These fonts are extensions to standard Courier fonts and include:

- ASCII character set
- DEC Supplemental character set
- DEC VT100 Line Drawing character set
- DEC Overprint Shading character set (reverse video effect) in the following sizes:
- Double-high, double-wide (double-size)
- Single-high, double-wide (double-wide)
- Single-high, single-wide (single-size) (Overprint only)\* and in the following orientations:
- Portrait (80-column)
- Landscape (132-column)
- \* The LN03 and LN03 PLUS resident fonts supply the single-high, single-wide size for the other three character sets.

Bolding and underlining are also supported by the LN03 and LN03 PLUS. Blinking is not supported.

#### Release Notes

VAX FMS ARABIC release notes are provided in machine-readable form on the distribution media. Using the VMSINSTAL procedure, release notes may be displayed at the terminal or printed prior to installing VAX FMS ARABIC and can be made available on-line after installation.

### HARDWARE REQUIREMENTS

VAX, MicroVAX, or VAXstation (Latin-Only) configuration as specified in the System Support Addendum (SSA 29.49.00-x).

### **SOFTWARE REQUIREMENTS \***

For systems using terminals (No DECwindows interface):

- VMS Operating System
- VAX FMS Forms Management System.

For workstations running VWS:

- VMS Operating System
- VMS Workstation Software (only for VAXstation VWS Latin-Only terminal emulation)
- VAX FMS Forms Management System
- \* Refer to the System Support Addendum (SSA 29.49.00-x) for availability and required versions of prerequisite software.

# ORDERING INFORMATION

Full Development and Run-time System:

Software Licenses: QL-VD779-BZ Software Media and Documentation: QA-VD7QA-H\*

Run-time-Only System:

Software Licenses: QL-VD879-BZ Software Media and Documentation: QA-VD8QA-H\*

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

# 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.

### LICENSE MANAGEMENT FACILITY SUPPORT

This layered product supports the VMS License Management Facility.

License units for both the Full Development System and Run-time System are allocated on a per-CPU basis and are not dependent on CPU capacity or User/Activity.

For more information on the License Management Facility, refer to the VMS Operating System Software Product Description (SPD 25.01.xx) or the License Management Facility manual of the VMS Operating System documentation set. 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 from Digital. For more information 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.

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# PRODUCT NAME: VAX FMS ARABIC, Version 2.4

# SSA 29.49.00-A

# HARDWARE REQUIREMENTS

Processors Supported

VAX: VAX 6000 Model 200 Series, VAX 6000 Model 300 Series, VAX 6000 Model 400 Series

VAX 8200, VAX 8300, VAX 8250, VAX 8350, VAX 8500, VAX 8530, VAX 8550, VAX 8600, VAX 8650, VAX 8700, VAX 8800, VAX 8810, VAX 8820, VAX 8830, VAX 8840, VAX 8842, VAX 8974, VAX 8978

VAX-11/730 VAX-11/750 VAX-11/780 VAX-11/785

- MicroVAX: MicroVAX II, MicroVAX 2000, MicroVAX 3100, MicroVAX 3300, MicroVAX 3400, MicroVAX 3500, MicroVAX 3600, MicroVAX 3800, MicroVAX 3900
- VAXstation:VAXstation II, VAXstation 2000, VAXstation 3100, VAXstation 3150, VAXstation 3200, VAXstation 3500, VAXstation 3520, VAXstation 3540
- VAXserver: VAXserver 3100. VAXserver 3300, 3400, VAXserver 3500, VAXserver VAXserver 3600, VAXserver 3602, VAXserver 3800. VAXserver 3900. VAXserver 6000-210, VAXserver 6000-310, VAXserver 6000-410, VAXserver 6000-420

Processors Not Supported:

MicroVAX 1, VAXstation I, VAX-11/725, VAX-11/782, VAXstation 8000

### Other Hardware Required:

A minimum of one megabyte of memory is required on MicroVAX and VAXstation processors. If performance is a significant consideration, additional memory is recommended.

For MicroVAX 3500/3600 Systems:

- One TK70 tape drive for installation of the software
- For MicroVAX and VAXstation Systems:
- One TK50 tape drive for installation of the software

For all other VAX Systems:

One 9-track 1600 BPI magnetic tape unit for installation of the software

# **Terminal Requirements**

#### Digital Terminal Support

For creation and display of Arabic forms, a terminal compatible with the Arabic VT320 Version 2.0 is required. For Latin-Only forms, any VT100, VT200, or VT300compatible terminal can be used.

Arabic or Latin forms of up to 23 lines can be created using the interactive form editing facility. A VAXstation is required for the creation of Latin-Only long forms of up to 54 lines in 80-column mode or 63 lines in 132-column mode using the interactive form editing facility. Arabic or Latin forms of up to 254 lines in length can be created on any terminal with the Form Language (Arabic is only available on the Arabic VT320 Version 2.0).

The form test facility and application programs that use VAX FMS ARABIC can execute on VT52, VT100, VT200, and VT300-compatible terminals. In Latin-Only, long forms of up to 54 lines in 80-column mode and 63 lines in 132-column mode can only be displayed on VAXstations. Long forms of greater than 63 lines cannot be displayed on any terminal, but may be printed. Refer to the table below for restrictions specific to each supported terminal, where applicable.

### IBM 3270-Compatible Terminal Support

This facility is available only for Latin-Only operation. When used in conjunction with the DECnet/SNA VMS Distributed Host Command Facility (DHCF), VAX FMS ARABIC can be used, with restrictions, to provide video forms support on any IBM 3270-compatible terminal supported by DHCF. The VAX FMS ARABIC interactive forms editor cannot be used from a 3270-compatible terminal for the creation or modification of video forms. Creation of VAX FMS ARABIC video forms from a 3270compatible terminal can only be accomplished by using a text editor and the VAX FMS ARABIC Form Language Translator.

Additional hardware including a valid DECnet connection to a DECnet/SNA Gateway is required. Consult the DECnet/SNA VMS Distributed Host Command Facility Software Product Description (SPD 26.71.xx) for exact hardware and software requirements.



November 1989 AE-NQ78A-TE Block Space Requirements (Block Cluster Size = 1):

Disk space required for installation:

	(1,536K bytes)
VAX FMS ARABIC form driver only	350 blocks (180K bytes)
Disk space required for use (permanent):	:
VAX FMS ARABIC	2500 blocks (1,280K bytes)

VAX FMS ARABIC form driver only	300 blocks
	(154K bytes)

These counts refer to the disk space required on the system disk. The sizes are approximate; actual sizes may vary depending on the user's system environment, configuration, and software options selected.

# **OPTIONAL HARDWARE**

Additional terminals as specified in the HARDWARE REQUIREMENTS section.

Any printer supported by the host operating system.

# **CLUSTER ENVIRONMENT**

This layered product is fully supported when installed on any valid and licensed VAXcluster\* configuration without restrictions. The HARDWARE REQUIREMENTS sections of this product's Software Product Description and System Support Addendum detail any special hardware required by this product.

\* V5.x VAXcluster configurations are fully described in the VAXcluster Software Product Description (29.78.xx) and include CI, Ethernet and Mixed Interconnect configurations.

# SOFTWARE REQUIREMENTS

For systems using terminals (No DECwindows interface):

- VMS Operating System V5.0 V5.2
- VAX FMS Forms Management System V2.4

For workstations running VWS:

- VMS Operating System V5.0 V5.2
- VMS Workstation Software V3.0 V4.0 (for Latin-Only terminal emulation in VWS environments)
- VAX FMS Forms Management System V2.4

### VMS Tailoring

For VMS V5.x systems, the following VMS classes are required for full functionality of this layered product:

- VMS Required Saveset
- Programming Support
- Utilities

For more information on VMS classes and tailoring, refer to the VMS Operating System Software Product Description (SPD 25.01.xx).

# **OPTIONAL SOFTWARE**

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Certain versions of these products depend upon a specific version of the Operating System. Please see the System Support Addendum of the product in question to determine which version you need.

DECnet/SNA VMS Distributed Host Command Facility V1.2 VAX ACMS V3.1 VAX BASIC V3.2 VAX BLISS-32 Implementation Language V4.5 VAX C V3.0 VAX COBOL V4.2 VAX DATATRIEVE V4.1 - V4.2 VAX DATATRIEVE V4.1 - V4.2 VAX DSM V5.1 VAX FORTRAN V5.2 VAX PASCAL V3.9 VAX PL/I V3.3

Application programs that call VAX DBMS through the standard call interface can use VAX FMS ARABIC. VAX CDD/Plus may be used in application programs that call VAX FMS ARABIC. However, storage of VAX FMS ARABIC form definitions in VAX CDD/Plus is not supported by VAX FMS ARABIC.

User Action routines may not be written in VAX DATATRIEVE.

Country Component Software

VAX FMS ARABIC V2.4 contains code to support the bilingual operation of the Arabic VT320 V2.0 terminal.

# **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.

# **DISTRIBUTION MEDIA**

Tape: 9-track 1600 BPI Magtape, TK50 Streaming Tape

# ORDERING INFORMATION

Full Development and Run-time System:

Software License: QL-VD779-BZ Software Media and Documentation: QA-VD7QA-H\*

Run-time-Only System:

Software license: QL-VD879-BZ Software Media and Documentation: QA-VD8QA-H\*

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

The above information is valid at time of release. Please contact your local Digital office for the most up-to-date information.

# VAX FMS ARABIC Terminal Support Table

Terminal	For Application Execution	For Form Development
Arabic VT320 V2.0 (Latin-Only operation)	See Note 6,12,13	See Note 6,12,13
Arabic VT320 V2.0 (Arabic/Bilingual operation)	See Note 6,12,14	See Note 6,12,14
VT52	See Note 1,13	See Note 2,13
VT100	See Note 1,13	See Note 3,13
VT100 w/AVO	See Note 1,13	See Note 3,13
VK100 (VT52)	See Note 1,13	See Note 2,13
VK100 (ANSI)	See Note 3,13	See Note 2,13
VT101	See Note 1,13	See Note 3,13
VT102	See Note 1,13	See Note 3,13
VT103	See Note 1,13	See Note 3,13
VT125	See Note 1,13	See Note 3,13
VT131	See Note 5,13	See Note 5,13
VT180	See Note 1,13	See Note 3,13
VT220	See Note 6,13	See Note 6,13
VT240	See Note 6,7,13	See Note 6,7,13
VT241	See Note 6,7,8,13	See Note 6,7,8,13
VT320	See Note 6,12,13	See Note 6,12,13
VT330	See Note 6,12,13	See Note 6,12,13
VT340	See Note 6,8,12,13	See Note 6,8,12,13
VAXstation I	See Note 9,13	See Note 9,13
VAXstation II	See Note 9,13	See Note 9,13
VAXstation 2000	See Note 9,13	See Note 9,13
VAXstation 3200	See Note 9,13	See Note 9,13
VAXstation 3500	See Note 9,13	See Note 9,13
PC100	See Note 10,13	See Note 10,13
PC350	See Note 10,13	See Note 10,13
PC380	See Note 10,13	See Note 10,13
3270-Compatible	See Note 11,13	See Note 11,13

# Notes:

1. Application execution using forms of up to 23 lines in length is fully supported.

- 2. The interactive form editor cannot be used on this terminal. Forms of any length up to 254 lines can be created and modified only with the Form Language.
- 3. Forms of up to 23 lines can be created and modified with either the interactive form editing facility or with the Form Language. Forms of greater than 23 lines and up to 254 lines can be created and modified only with the Form Language.

### Notes (continued):

- 4. Forms to be displayed on a VK100 cannot use the following VAX FMS ARABIC features:
  - Wide forms (132 columns)
  - Bold video attribute

In addition, because the blinking and underline video characteristics on VK100 terminals are different from those on VT100 terminals, the visual effects will differ.

- 5. The VT131 terminal is supported in VT100 mode only.
- 6. VT200s and VT300s are supported in VT100 and VT200/VT300 7- and 8-bit modes. VAX FMS ARABIC cannot override user lockout features of the VT200 and VT300-series terminals. VT100 optional alternate character set ROMs are not available on VT200 and VT300-series terminals; therefore, VAX FMS ARABIC character sets SET1 and SET2 are not supported on VT200 and VT300-series terminals.

The UK character set is not available on VT200 and VT300-series terminals when they are used in VT200 or VT300 mode (as applicable). On VT200 and VT300-series terminals, the actual character set displayed/used by VAX FMS ARABIC depends on terminal setup and cannot be changed or selected by VAX FMS ARABIC.

VAX FMS ARABIC applications with forms designed for use on VT100-series terminals may require code modifications when used on VT200 or VT300-series terminals because of the increased number of function keys available on the keyboards and the potential use of 8-bit characters.

- 7. The use of blinking, double-wide, and/or double-sized lines in VAX FMS ARABIC forms displayed on a VT240 terminal can result in substantially reduced performance.
- 8. Use of color is not supported on these terminals.
- 9. VAXstations are supported in VT terminal-emulation mode only, with the following additional feature. Long forms of up to 54 lines in 80-column mode or 63 lines in 132-column mode may be used in application execution and may be created and modified using the interactive form editor in form development.
- 10. The PC100, PC350, and PC380 are supported in VT102 mode. The PC350 is also supported in 8-bit mode.
- 11. These terminals are supported subject to restrictions enumerated elsewhere in this document. Additional hardware and software are required to use VAX FMS ARABIC with 3270-compatible terminals. Consult the DECnet/ SNA VMS Distributed Host Command Facility Software Product Description (SPD 26.71.xx) for exact hardware and software requirements and any additional restrictions.
- 12. The 25th Status Line is not supported on any VT300-series terminal. The mouse is not supported on the VT330 and VT340.
- 13. Does not support Arabic/Bilingual operation.
- 14. Supports Arabic/Bilingual operation.