Software Product Description

PRODUCT NAME: AAF01/VMS Subroutine Library, Version 2.0 (for VMS Operating Systems) **SPD 27.49.01**

DESCRIPTION

The AAF01/VMS Subroutine Library provides user with a simple FORTRAN interface to the AAF01-A Digital-to-Analog Converter.

The AAF01-A is a high speed, multichannel Digital-to-Analog Converter. It is connected to a UBA (UNIBUS adapter) via the DRE11-C or to Q-bus (MicroVAX II) via the DRQ11-C.

The device has 16 single ended analogue output channels. Triggering of conversions by the AAF01-A can be initiated by either an internal programmable clock or by a user-supplied external clock. For each conversion, the channel number and the control mode are contained in one of 1024 entries in the AAF01-A Control Table. The Control Table can thus be set up to perform a large, fixed sequence of conversion operations.

The Subroutine Library contains calls such as:

- To set up/release the AAF01 device:

AAF$FAINIT	initialize system
AAF$FREAST	read status of the device
AAF$FRESET	reset device
AAF$FSETCH	set channel (multiple AAF01s)
AAF$FAEXIT	release device
AAF$FAAFID	identify Subroutine Library
AAF$STATUS	read status of DRE11-C/DRQ11-C device

- To enable/disable AAF01 functions:

AAF$FSTSBE	enable sequence break
AAF$FCLSBE	disable sequence break
AAF$FENECE	enable external clock
AAF$FDSECE	disable external clock
AAF$FENMET	enable control word transfer
AAF$FDSMET	disable control word transfer

- To load or read AAF01 registers:

AAF$FRECTA	read from Control Table Address register
AAF$FLOCTA	write into Control Table Address register
AAF$FSTPCR	load Programmable Clock Register
AAF$FLOCWT	load Control Word Table registers
AAF$FRECWT	read Control Word Table registers
AAF$FREACO	read command output bit of the Control and Status register
AAF$FSETCO	set command output bit of the Control and Status register

- To start conversions and convert values:

AAF$FCVERT	start conversion
AAF$CONLAR	start large buffer conversion
AAF$FCVCOD	calculate converter code
AAF$FUNSOL	enable/disable attention AST's

In addition to the subroutines above, the package includes a set of indirect command procedures to generate the AAF01/VMS Subroutine Library, to generate a Control Word Table and to link a user program, the Control Word Table and the Subroutine Library. The package also includes example programs and test programs, the latter being used for calibrating the system.

PERFORMANCE

The highest conversion rate depends highly on the VMS Operating System configuration/load and on the way, how the outgoing data are prepared/read from a mass storage. The maximum transfer rate of 400K words/sec from memory can be achieved in burst mode on all valid VAX/MicroVAX systems with the standard DRX11-C/VMS Driver (SPD 26.64.xx).

digital software

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HARDWARE REQUIREMENTS

VAX, MicroVAX or VAXstation configuration as specified in the System Support Addendum (SSA 27.49.01-x)

- One DRE11-C or DRQ11-C interface
- One AAF01-A Interface
- Hardware capable of reading one of the distribution media upon which this product is offered.

SOFTWARE REQUIREMENTS*

VMS Operating System
DRX11-C/VMS Driver

OPTIONAL SOFTWARE*

VAX-11 FORTRAN

* Refer to the System Support Addendum for availability and required versions of Prerequisite/Optional Software (SSA 27.49.01-x)

ORDERING INFORMATION

Software Licenses: QL-EFRA*-**
Software Media: QA-EFRA*-**
Software Documentation: QA-EFRAA-GZ

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

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

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