

DEC Talk

The VAXorcist

DECdoc Firebird Database

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1. Introduction

I'm a collector of **DEC** hardware, software & manuals.

Sometimes collections grow so large that you run the risk to loose track of your collections' items. Then it's time to look for a tool to manage the "chaos"!

Example (my collection as of yet):

- 701 hardware items
- 510 software media items
- 5.810 manuals (paper & pdf files)

2. An Example

Imagine for example the **DSV11 Dual Synchronous Serial QBus Interface** option.

The following questions might arise:

- When was the **DSV11** introduced?
- Which variants of the **DSV11** do exist?
- Which module(s) make the **DSV11**?
- Which other parts belong to the **DSV11** option?
- Which cabinet kits are there for the **DSV11**?
- Which values (e.g. supply voltage, maximum supply current, Qbus loads, baud rates, ...) are specific to the **DSV11** option?

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- How many **DSV11s** are in my collection, where are they from and in what condition?
- Where are my unused **DSV11s** stored?
- Into which of my computer systems are **DSV11s** configured?
- Which manuals (and other documents) describe the **DSV11**?
- Which of the **DSV11** manuals do I own?
- Which of my **DSV11** manuals are printed and which are scanned to pdf or other file types?
- Where are my **DSV11** manuals stored?
- Which versions of **VMS** (or other **DEC** operating systems) support the **DSV11**?
- Which driver software is needed for the **DSV11**?
- Are there License PAKs for the **DSV11** driver software?
- Which of the **DSV11** driver License PAKs have I got?
- What are the diagnostic software modules for the **DSV11**?
- Which version(s) of the diagnostic software modules for the **DSV11** have I got?
- Which media contain the **DSV11** diagnostics and where are they stored?

Of course you can find some of this kind of information by reading the relevant manuals, but what and where are they? Naturally you can go through every shelf and every box, look into all of your computers, but that would take ages!

The **DECdoc** database is designed to cover all possible aspects of collecting **DEC** items, especially hardware, software and manuals of all kinds. The "**doc**" in **DECdoc** means "documenting", not "documents" alone.

DECdoc is a (hopefully growing) **DEC** knowledge base as well as a means to manage collections of **DEC** items (and related "third party" products).

Special care was taken to include the interrelations between two or more of the main categories (hardware, software, manuals) and/or subcategories.

Data now contained in **DECdoc** was shamelessly taken from several sources (e.g. Manx for manuals, Modules field guide for hardware items) as well as extracted from **DEC** manuals and other sources e.g. by reading and typing or OCR. There was (and will still be) a considerable amount of manual labor especially with filling the "connecting" tables.

Most of the used data sources lack a strict formatting as well as the important cross connections between the three main categories. Finding special information in conventional sources is normally limited to an unspecific text search.

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Up to now **DECdoc** is mainly focused on **PDP-11** and **VAX** hardware, software and manuals. Of course **DECdoc** is open for older (e.g. **PDP-8**, **PDP-10**) as well as newer **DEC** computer architectures (for example **Alpha**). Even so-called "Third-Party" products are integrated into **DECdoc**. Famous names in this category are **EMULEX**, **DILOG** and **PLESSEY** for example. To be honest, **DECdoc** could even be used to handle collections of computers originating from **DECs** major competitors: **IBM**, **HP**, **SUN** and others ;-)

Until recently the **DECdoc** database ran on a Linux **PostgreSQL** server only. From now on there's a simplified version based on a **Firebird** file database. No more need to set up a database server and ODBC hassle!

The front end for both database versions is built with **LibreOffice Base**.

What do you need for the **Firebird** file database version:

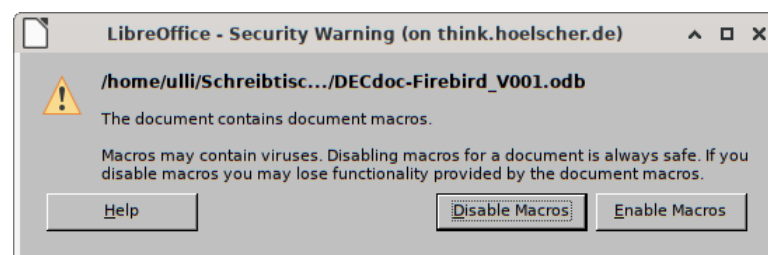
- LibreOffice (at least version 7.x)
- DECdoc LibreOffice Base interface file: **DECdoc-Firebird_V001.odb**
- DECdoc Firebird database file: **DECdoc_V001.fdb**

3. Preparing to use the DECdoc Firebird File Database

- If not already done, [download & install LibreOffice](#).
- Copy both DECdoc files:
 - **DECdoc-Firebird_V001.odb** and
 - **DECdoc_V001.fdb**to a directory of your choice (the file version numbers may differ).
- Write protect the **DECdoc-Firebird_V001.odb** LibreOffice Base file. This will protect you against unintentionally modifying the DECdoc user interface. There will be no problem changing existing or entering new data, because it is stored in the Firebird database file **DECdoc_V001.fdb**.

4. Configuring LibreOffice Base for the Firebird File Database

Open the **DECdoc-Firebird_V001.odb** file with LibreOffice Base:



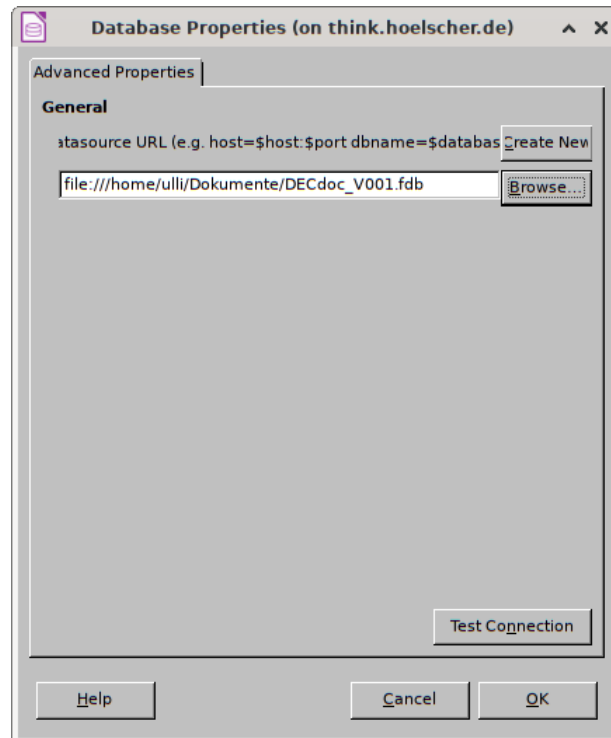
Choose: **Enable Macros**; the macros included are safe.

Close the automatically opened form "Hardware".

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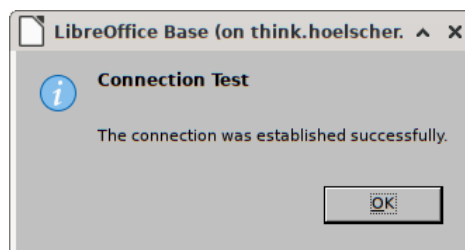
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Now choose from the LibreOffice Base main menu: **Edit/Database/Properties...**



Now choose: **Browse...** and navigate to where you put the **DECdoc_V001.fdb** file (the version number may differ).

Now verify operation with: **Test Connection**



Now you can use the DECdoc database with the LibreOffice Base interface :-))

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5. Using the DECdoc LibreOffice Base Interface

As soon as you open the DECdoc LibreOffice Base interface the **Hardware** form will be opened automatically (of course you can change that if you want to).

DECdoc-Firebird_V001.odt : Hardware - LibreOffice Base: Database Form (on think.hoelscher.de)

File Edit View Insert Format Styles Table Form Tools Window Help

id item detail

DEC DEC

origin hi date_intro sure modified modified_by

DEC top

remark

flag

Reset

Record

function

Record

Sub-Hardware Super-Hardware

Var	Description	Sup	Dependy	>ID<	Var	Co
>+<		>+<	-00	has architecture ALPHA	-00	
			-00	has architecture DISKS	-00	
			-00	has architecture HS	-00	
			-00	has architecture HSC	-00	
			-00	has architecture PDP-1	-00	
			-00	has architecture PDP-10	-00	
			-00	has architecture PDP-11	-00	
			-00	has architecture PDP-12	-00	
			-00	has architecture PDP-15	-00	
			-00	has architecture PDP-4	-00	
			-00	has architecture PDP-5	-00	
			-00	has architecture PDP-7	-00	
			-00	has architecture PDP-8	-00	
			-00	has architecture PDP-9	-00	
			-00	has architecture RISC	-00	

Record 1 of 1

Record 1 of 17

Record 1 of 1

Var	>Doc<	R
>+<		

Record 1 of 1

Var	>Software<	Version	Dependy	Type
>+<	-00	0.0	is diagnostic for	

Record 1 of 1

Var	Type	Value	Unit	Ref
>+<	-00			

Record 1 of 1

Hardware data is stored hierarchically, i.e. starting with the top level item **DEC**. You can either traverse the hierarchy downwards to the hardware item you want to know about or select it directly.

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5.1 Traversing the Hierarchy

5.1.1 Going down

Have a closer look at the **Sub-Hardware** table (at the center):

Sub-Hardware					
	Sup	Dependency	>ID<	Var	Co
▶	-00	has architecture	ALPHA	-00	
	-00	has architecture	DISKS	-00	
	-00	has architecture	HS	-00	
	-00	has architecture	HSC	-00	
	-00	has architecture	PDP-1	-00	
	-00	has architecture	PDP-10	-00	
	-00	has architecture	PDP-11	-00	
	-00	has architecture	PDP-12	-00	
	-00	has architecture	PDP-15	-00	
	-00	has architecture	PDP-4	-00	
	-00	has architecture	PDP-5	-00	
	-00	has architecture	PDP-7	-00	
	-00	has architecture	PDP-8	-00	
	-00	has architecture	PDP-9	-00	
	-00	has architecture	RISC	-00	
Record	1	of 17			

Hold down the **Control** key <Ctrl> and click on any item in the >ID< column (scroll downward using the scroll bar on the right side for more items, e.g. **VAX**) to get one step downwards to a DEC architecture, e.g. **PDP-11**:

Sub-Hardware					
	Sup	Dependency	>ID<	Var	Co
▶	-00	has member	PDP-11 QBUS	-00	
	-00	has member	PDP-11 UNIBUS	-00	1
	-00	has member	PDT-11	-00	
	-00	has member	PRO	-00	
+					
Record	1	of 4			

Here you can choose between the different PDP-11 architectures: **PDP-11 QBUS**, **PDP-11 UNIBUS**, **PDT-11**, and **PRO**. Now navigate further down the hierarchy (like before), e.g. to **PDP-11 QBUS**:

Sub-Hardware					
	Sup	Dependency	>ID<	Var	Co
▶	-00	is made of	MICROPDP-11	-00	
	-00	is made of	PDP-11/02	-00	
	-00	is made of	PDP-11/03	-00	
	-00	is made of	PDP-11/23	-00	
	-00	is made of	PDP-11/23+	-00	
	-00	is made of	PDP-11/23S	-00	
	-00	is made of	PDP-11/53	-00	
	-00	is made of	PDP-11/53+	-00	
	-00	is made of	PDP-11/73	-00	
	-00	is made of	PDP-11/73B	-00	
	-00	is made of	PDP-11/83	-00	
	-00	is made of	PDP-11/93	-00	
	-00	is made of	PDP-11T23	-00	
	-00	is made of	PDP-11T23B	-00	
	-00	is made of	PDP-11V23	-00	
Record	1	of 15			

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You want to know about the **PDP-11/73**, so move further downward to that.
Now lets have a look at the whole form:

The screenshot displays the 'DECdoc-Firebird_V001.odt : Hardware - LibreOffice Base: Database Form (on think.hoelscher.de)' interface. The form is divided into several sections:

- Top Section:** Contains fields for 'id' (PDP-11/73), 'item' (PDP-11/73), 'origin', 'date_intro', 'sure', 'modified', 'modified_by', 'remark', and 'flag'. There are also buttons for 'Reset' and 'Record'.
- Middle Left:** A table titled 'Sub-Hardware' with columns: Var, Description, Sup, Dependency, >ID<, Var, Co. It lists various hardware components like 1730A, 1730B, 1730K, 1730Y, 1730Z, SX-EA52E, SX-EA54E, 11H73, 70-21150, DH-173Q1, H3601, KD11-B, MSV11, and MSV11.
- Middle Right:** A table titled 'Super-Hardware' with columns: >ID<, Var, Dependency, Sub. It lists components like PDP-11 QBUS and QBUS.
- Bottom Left:** A table titled '>Doc<' with columns: Var, >Doc<, R. It lists documents like AA-2874F-TC, EB-26078-41, EB-26085-41, EB-27713-41, EB-29317-41, ED PDP Systems and Options, ED-000, EE-C0169-98, EK-247AA-MG-001, EK-KDJUB-IN, EK-KDJUC-IN, EK-MIC11-SG-001, EK-MIC11-TM-002, MP-02015, and RDX2-TT-n1.
- Bottom Center:** A table titled '>Software<' with columns: Var, >Software<, Version, Dependency, Type. It lists software like CTS-300, DSM-11, DSM-11, IAS, MICRO/RSTS, MICRO/RXS, MICROPOWER/PAS, RSTS/E, RSTS/E, RSX-11M, RSX-11M-PLUS, and RSX-11S.
- Bottom Right:** A table titled 'Var' with columns: Var, Type, Value, Unit, Ref. It lists various values and units.
- Far Right:** A table titled 'function' with columns: function. It lists functions like COM and QBUS.

- Top: Common data fields of the actual item
- Middle left: Actual item variants table
- Middle center: Items table [on the next hierarchy level downwards] (here: PDP-11/73 systems and options)
- Middle right: Items table [one hierarchy level above the current item] (here: PDP-11 architecture)
- Bottom left: Documents table [related to the current item]
- Bottom center: Software table [related to the current item]
- Bottom right: Item values table [e.g. disk space or power consumption]
- Far right at the top: Item function table (here: "COM" for computer)
- Far right in the middle: Busses table [used with the current item] (here: "QBUS")

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Going one step further down to the MSV11 Memory shows us details about it:

The screenshot displays the DECdoc-Firebird_V001.odt database form. The main form fields include:

- id: MSV11
- item: QBUS MEMORY
- detail: (empty)
- origin: DEC
- date: (empty)
- sure: (empty)
- modified: (empty)
- modified_by: (empty)
- remark: (empty)
- flag: (empty)

Below the main form, there are several tables:

- Sub-Hardware**: A table with columns Var, Description, Sup, Dependency, >ID<, Var, Co. It lists various hardware components like 1K X 16 RANDOM ACCESS MEMORY, 4K X 16 RANDOM ACCESS MEMORY, and 16K BY 16 RAM.
- Super-Hardware**: A table with columns Var, Description, Sup, Dependency, Sub, Bus. It lists components like 11/23, 11A23, 11C23, 11T23, 1730K, 1730Y, DPM50, IP300, KD11, MICRODDP-11, and MICRODDP-12.
- Other Tables**: There are also tables for >Doc<, >Software<, and a table with columns Var, Type, Value, Unit, Ref.

There are still two (optional) levels of hierarchy below the level of "option", "module" and "part".

It's time to have a closer look at the hardware "variants" now. Almost all DEC hardware items (except for the "higher" hierarchy levels) have got variants originally assigned by DEC.

For reason of consistency **all** hardware items are assigned at least the base variant "-00" in DECdoc.

Hardware item variants distinguish between (for example):

- different subtypes
- different properties , e.g. memory size
- different states of ongoing development
- different housings
- different packaging
- ...

Attributes common to all variants are assigned to the base variant.

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Two important notes:

- **When you jump downwards or upwards in the hardware hierarchy, you jump to an item with all of its variants, although you click on the item in the row with a specific variant.**
- **Every time you jump, a filter is set to the item of choice. When you want to display all items instead of the one chosen, you have to reset the filter first, see: "Removing Form Filters"**

5.1.2 Going up

At any time you can go up the hierarchy by clicking (with the <Ctrl> key pressed) on an item in the "Super-Hardware" table.

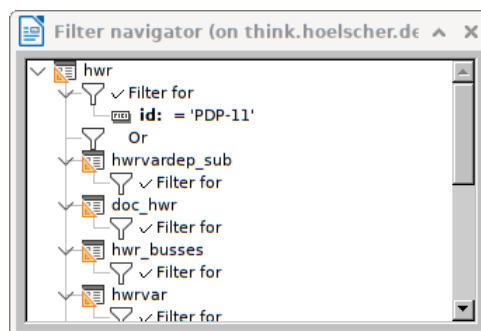
5.2 Accessing an Item directly ("Filtering")

Instead of going through the hierarchy you can access any item directly when you know its name. Have a look at the bottom Form Navigation Toolbar:



Click at the "Form-Based Filters" button or use the keystroke combo "Ctrl + Shift + L".

The Filter navigator window will open; close that one - we don't need it:



Now you will see an almost empty hardware form:

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DECdoc-Firebird_V001.odt : Hardware - LibreOffice Base: Database Form (on think.hoelscher.de)

File Edit View Insert Format Styles Table Form Tools Window Help

id: like VAXSTATION% item: detail:

origin: hi date_intro: sure: modified: modified_by: function:

remark: Reset flag:

Sub-Hardware

Var	Description	Sup	Dependency	>ID<	Var	Co

Record: of

Super-Hardware

Var	>ID<	Var	Dependency	Sub

Record: of

Bus

Var	>Doc<	R

Record: of

Var	>Software<	Version	Dependency	Type

Record: of

Var	Type	Value	Unit	Ref

Record: of

Close

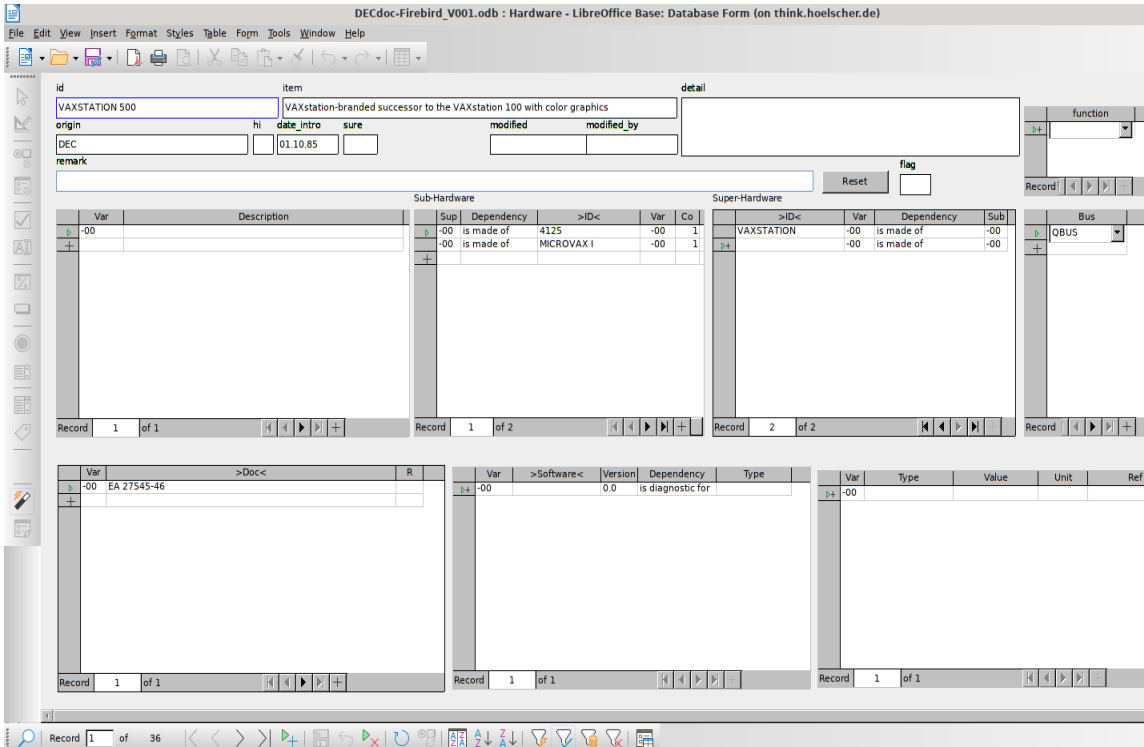
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You can use any of the hardware item attributes (fields on top of the form) to specify properties of the item(s) you are looking for. Note that all the conditions you set must match. When you get no results at all, use fewer conditions.

I recommend using the "id" field for searching. Imagine you want to look for VAXstations of any kind, then use "like VAXSTATION%" as search string (without the quotes). Use uppercase strings only when setting conditions for the "id" field, because all ids are in uppercase to ease searching. The "like" tells the program that you want to filter using wildcards. The "%" is the wildcard for an arbitrary number of characters or numbers.

To start filtering use the bottom leftmost button ("Apply Form-Based Filter") :



The screenshot shows a LibreOffice Base database form titled "DECdoc-Firebird_V001.odt : Hardware - LibreOffice Base: Database Form (on think.hoelscher.de)". The form has a top section for item attributes and several table views below.

Item Attributes:

- id: VAXSTATION 500
- item: VAXstation-branded successor to the VAXstation 100 with color graphics
- origin: DEC
- date_intro: 01.10.85
- modified: (empty)
- modified_by: (empty)
- flag: (empty)
- Reset button

Sub-Hardware Table:

Var	Description	Sup	Dependency	>ID<	Var	Co
-00		-00	is made of	4125	-00	1
-00		-00	is made of	MICROVAX I	-00	1

Super-Hardware Table:

Var	Description	Sup	Dependency	>ID<	Var	Co
-00		-00	is made of		-00	1
-00		-00	is made of		-00	1

Bus Table:

Var	Description	Sup	Dependency	>ID<	Var	Co
-00		-00	is made of		-00	1
-00		-00	is made of		-00	1

>Doc< Table:

Var	Description	Sup	Dependency	>ID<	Var	Co
-00	EA 27545-46	-00	is made of		-00	1
-00		-00	is made of		-00	1

>Software< Table:

Var	Description	Sup	Dependency	>ID<	Var	Co
-00		-00	is made of		-00	1
-00		-00	is made of		-00	1

Type Table:

Var	Description	Sup	Dependency	>ID<	Var	Co
-00		-00	is made of		-00	1
-00		-00	is made of		-00	1

The bottom of the form shows a status bar with "Record 1 of 36" and navigation icons.

Now you can scroll through the results of your query (here: 36 items) using the scroll icons (|<, <, >, >|) at the bottom.

Of course you can jump to other hardware items from here as described in "Traversing the Hierarchy"/"Intra-Form and Inter-Form Links".

5.3 Removing Form Filters

Filters can be removed by clicking the "Reset Filter/Sort" icon .

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5.4 Form "Software"

DECdoc-Firebird_V001.odt : Software - LibreOffice Base: Database Form (on think.hoelscher.de)

File Edit View Insert Format Styles Table Form Tools Window Help

id: VMS/VAX type: OS

item: VMS/VAX Operating System orig: DEC

modified_datetime: modified_by:

remark: instname:

spd: 25.01 base_upi: 001 shor:

crossref: 25.99.xx diaglevel:

cc: AA os: VMS

arch: VAX

UPI	Item
001	Extended Documentation Kit
095	Base Documentation Kit

Ver	instname	Year	Month	SPD	status	version indepe
0.0						
0.5		1977				X0.5
1.0		1978	8	Full		first non-beta v
1.01		1978		Upd/???		
1.1		1978				??? Have there
1.2		1978				??? Have there
1.3		1979				??? Have there
1.4		1979				??? Have there
1.5		1979	2	Upd/Full		First version to
1.6		1979	8	Upd		Letzte 1er Vers
2.0		1980	4	Full		Mar. 80 basic fi
2.1		1980	12			
2.2		1981	3	Upd		Nov. 1980? It:
2.3		1981	10			
2.4		1981				Blue wall
2.5		1981				letzte Version v
3.0		1982	4	Full		EDT-Editor, MO
3.0-A		1982		???		special for 11/7
3.0MUP		1982	8	MUP		
3.1		1982	8	Upd		
3.1MUP		1982	8	MUP		
3.2		1982	12	Upd/Remast		
3.3		1983	4	Upd		

Record 1 of 49 *

DECdoc LibreOffice Base Form "Software: VMS/VAX"

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5.5 Form "Documents" (Manuals)

The screenshot shows the DECdoc LibreOffice Base Form "Documents: AA-EZ24A-TN". The form is divided into several sections:

- Form Fields:** Fields for id (AA-EZ24A-TN), isbn, title (MicroVMS Workstation User's Guide), origin, doctype, date (01.06.85), language, edition, pages, papersize, modified_datetime, modified_by, remark, and flag.
- File List:** A table showing the file "AA-EZ24A-TN MicroVMS Workstation User's Guide V1.1.pdf" with owner "Ulli" and number "1".
- Hardware Table:** A table with columns >Hardware<, Var, and Rank. It lists various hardware components like 4014, LA100, LA50, VAXSTATION I, VAXSTATION II, VCB01, and VT240.
- SubDoc Table:** A table with columns Dep, SubDoc, and SuperDoc. It shows the relationship between the current document and other documents.

DECdoc LibreOffice Base Form "Documents: AA-EZ24A-TN"

6. Intra-Form and Inter-Form Links

Imagine you're using the **DECdoc** form "Hardware".

You are currently looking at the **VAXSTATION II** record.

Now you want to know more about the **BA23** enclosure.

Do a **<Ctrl> + click** at the **BA23** entry and the form will now display the **BA23** record:

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DECdoc-Firebird_V001.odb : Hardware - LibreOffice Base: Database Form (on think.hoelscher.de)

File Edit View Insert Format Styles Table Form Tools Window Help

id: BA23 item: BA23 Enclosure detail:
origin: DEC hi: 0 date_intro: 0 sure: 0 modified: 0 modified_by: 0
remark:
Reset flag:
Record: 1 of 31

Sub-Hardware

Var	Description	Sup	Dependency	>ID<	Var	Co
-00	Cutouts: 4 * Size B & 2 * Size A OR 2 * Size B & 5 * Size A	-00	has option	54-16744	-01	
-53		-00	has option	70-21844	-00	
-6		-00	has option	70-22025	-01	
-A	Chassis, Power Supply and Backplane	-00	has option	74-25652	-00	
-A?	LSI CHASSIS, PWR SUP, BACKPLANE	-00	has option	74-27561	-01	
-AA		-00	has option	74-28583	-01	
-AB		-00	has option	74-29501	-00	
-AC		-CC	has option	BCV2A	-00	
-AD		-CD	has option	BCV2A	-00	
-AE		-00	has option	H3490	-00	
-AF		-00	has option	H7877	-00	
-AL		-00	has option	M9047	-00	
-AM		-00	is made of	12-17556	-00	
-AR	Rack Mounting Kit	-00	is made of	12-17556	-01	
-AS		-00	is made of	12-18245	-01	

Record: 1 of 41 *

Super-Hardware

>ID<	Var	Dependency	Sub
11A23	-F	is made of	-0C
11C23	-F	is made of	-0C
1730K	-E2	is made of	-B1
1730K	-E3	is made of	-B1
1830Y	-00	is made of	-0C
6300E	-00	is made of	-0C
6300Y	-00	is made of	-0C
6300Z	-00	is made of	-0C
6500V	-00	is made of	-0C
CK-KA630	-AB	is cabinet kit for	-0C
DESNA	-00	is made of	-0C
DH-153Q1	-00	is made of	-0C
DH-153Q2	-00	is made of	-0C
DH-153Q3	-00	is made of	-0C
DH-153Q4	-00	is made of	-0C

Record: 1 of 34

Doc

Var	>Doc<	R
-00	AZ-FE06A-TN	
-00	AZ-GLBAA-MN	
-00	AZ-GM3AA-MN	
-00	AZ-GPTAA-MC	1
-00	EB-24944-18	2
-00	EB-26078-41	1
-00	EB-27713-41	
-00	ED POP, Systems, and Options	2
-00	ED-000	
-00	EK-154AA-OW-001	
-00	EK-186AA-MG-001	1
-00	EK-239AC-SP-003	
-00	EK-BA23A-IP-001	1
-00	EK-BA23C-IN	1
-00	EK-BA23U-IN	1

Record: 1 of 23

Software

Var	>Software<	Version	Dependency	Type
-00		0.0	is diagnostic for	

Record: 1 of 1

Price

Var	Type	Value	Unit	Ref
-A	Price	8.694.00	DM	de1992.02.11
-CD	Price	9.415.00	DM	de1992.02.11
-UC	Price	700.00	DM	de1992.02.11

Record: 1 of 3

DECdoc LibreOffice Base Form "Hardware: BA23"

All items in columns with clasped headings like ">ID<", ">Swr<", ">Hardware<", or ">Doc<" are linked to the respective form.

When you jump to another item in the same form, the same form is used and the focus on the previous item is lost.

When you jump into another form, the previous form is left "as is" keeping the focus on the item before you jumped.

You can switch between open forms easily by clicking on their icons in the task bar or cycle between them using **<Alt + Tab>**.