Eurogam project EDOC135

Installation procedures for electronic card test

(tcard, database access, VXI configuration)

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Contents

1 Introduction

You have two possibilitys to extract the Eurogam tcard software :
- with ftp : account anonymous , under directory ./eurogam
- with a tar_file : see create_tarfile & extract_file

2 Edoc references

The edoc124.latex describes the aim and the use of tcard. This document is specificality related to the implementation of all this software. The edoc126.latex describes the various protocols
The edoc128.latex contains GE, BGO and trigger synoptiques
The edoc131.latex describes the "tcard" VXI Register Server
The edoc133.latex describes the database for the VXI cards testing

Under directory $HOME/EDOC you find this edoc135.latex

3 Tcard software

Under directory $HOME/SYNOPTIQUE you find :

3.1 Executables files

tcard
set_vxi_config
power_supply

3.2 Tcard datas

3.2.1 icon file

tcard.icon

3.2.2 help_file

tcard.info

3.2.3 synoptique description files

ge.syn
ge_roci.syn
bgo.syn
bgo_roci.syn
trigger.syn
legende.syn

3.2.4 digest data base

ge.data
ge_roci.data
bgo.data
bgo_roci.data

4 Software to access to VXI, data_base & spectrum

Under directory $HOME/bin you find several tasks to manage exchanges with VXI crate, the database and spectra built by the resource manager

4.1 access on VXI

load_vxi
read_vxi
write_vxi
button_vxi
scope_vxi
scope_reset_vxi
mt_vxi
echgl

4.2 access on data base

init_database
read_database
write_database
save_current_database
load_bgo
load_ge

4.3 access on spectrum

auto_erase_spectrum
erase_spectrum
start_plus1
stop_plus1
refresh_spectrum

4.4 data base reformating and configuration

dbformat is used to reformat or check the data base files after their edition or modification)

5 list_of_database files

```
Data base files under directory = $DATABASE/current

Array_Setup.G
Array_Setup.S
Array_Setup.T
Button_Setup.G
Button_Setup.S
Button_Setup.T
Button_Setup_0000.G  G is for GE, S for Shield and T for Trigger.
Button_Setup_0000.S  One file is now needed for each serial number of VXI card
Button_Setup_0000.T   (ex:0001 )
Button_Setup_default_config.G   standard file to be used before checking each
Button_Setup_default_config.S   new VXI card ( new serial number)
Button_Setup_default_config.T
Reg_Setup.G
Reg_Setup.S
Reg_Setup.T
Reg_Setup_0000.G
Reg_Setup_0000.S
Reg_Setup_0000.T
Reg_Setup_default_config.G
Reg_Setup_default_config.S
Reg_Setup_default_config.T
VXIConfig.G
VXIConfig.S
VXIConfig.T
VXIConfig.target
power_supply.ge
power_supply.bgo
```

6 VXI processes

```
All files needed by the Resource Manager to run "tcard" are in the directory
./VXI. The directory ./VXI is divided in 5 subdirectories:
   ./VXI/vw/
   ./VXI/TEST/
   ./VXI/AutoConf/
   ./VXI/PLUS\_UN/
   ./VXI/Server/
```

6.1 ./VXI/vw/

```
   In the directory ./VXI/vw/ there are 5 files :
```

```
- vxWorks
- vxWorks.sym the vxWorks kernel and symbols table used by the Resource
                 Manager.
- startup.cmd the vxWorks startup file used by the Resource Mnanger.
                 It's important to modify this file to take care of some
                 particularities :
                    - for console : tyBackspaceSet
                    - for nfs file system : - nfsMount
                                            - nfsAuthUnixSet
                                            - cd
- prompt.o a very small program to have a nice prompt
- vxRshd.o a Wind River program to have remote command facility used
                 by "tcard" in the plus un ADC.
```

6.2 ./VXI/TEST/

In the directory ./VXI/TEST/ there are the library test_lib.o (used by hardware experts) and 2 test programs executed at startup time (fifo_test.o & roci_test.o).

6.3 ./VXI/AutoConf/

In the directory ./VXI/AutoConf/ there is the VXI routines used to autoconfigure and 2 small programs : - one (vxiShow) to know the contents of the device registers of a particular device (vxiShow device_number).
- the other (vxitblShow) to know the contents of the device registers maintained in the VXI table of a particular device (vxitblShow device_number).

6.4 ./VXI/PLUS_UN/

In the directory ./VXI/PLUS_UN there is the plus un library used by "tcard" to build the spectrum required by a clic on an ADC.

6.5 ./VXI/Server/

In the directory ./VXI/Server there is the Server library cardlib and 5 servers :

- mt_server
- read_server
- scope_server
- switch_server
- write_server

6.6 Entering Boot Parameters

```
boot device         : ln
processor number    : 0
host name           : lys
```

```
file name             : /home/lys/gc/g3400/eurogam/VXI/vw/vxWorks
inet on ethernet (e) : 134.158.84.5
inet on backplane (b):
host inet (h)         : 134.158.83.1
gateway inet (g)      :
user (u)              : bh
ftp password (pw) (blank = use rsh):
flags (f)             : 0x28
target name (tn)      : holly
startup script (s)    : lys:/home/lys/gc/g3400/eurogam/VXI/vw/startup.cmd
other (o)             :
```

7 tar_script

7.1 tar tcard.script

tar -cvf tcard.tar tcard
set_vxi_config
power_supply
tcard.icon
tcard.info
ge.syn
ge_roci.syn
bgo.syn
bgo_roci.syn
trigger.syn
ge.data
ge_roci.data
bgo.data
bgo_roci.data
legende.syn
edoc124.dvi

7.2 database_bin.script

```
tar -cvf database_bin.tar  autoerase_spectrum button_vxi dbformat
erase_spectrum init_database load_bgo load_ge load_vxi mt_vxi popen_vxRsh
read_database read_vxi refresh_spectrum save_current_database scope_reset_vxi
scope_vxi start_plus1 stop_plus1 vxRsh write_database write_vxi
update_vxi_database echgl
```

7.3 tardatabase.script

```
tar -cvf database.tar
```

```
Array_Setup.G Array_Setup.S Array_Setup.T
Button_Setup.G Button_Setup.S Button_Setup.T
Button_Setup_0000.G Button_Setup_0000.S Button_Setup_0000.T
Button_Setup_default_config.G Button_Setup_default_config.S Button_Setup_default_config.T
Reg_Setup_0000.G Reg_Setup.S Reg_Setup.T
Reg_Setup_default_config.G Reg_Setup_default_config.S Reg_Setup_default_config.T
VXIConfig.G VXIConfig.S VXIConfig.T VXIConfig.target
power_supply.ge power_supply.bgo
```

8 Create_tarfile

Under $HOME you find the "create_tarfile" which save

README_install
create_tarfile
extract_tarfile
.ucshrc_tcard
edoc135.latex
tcard.tar.Z
database_bin.tar.Z
database.tar.Z
some processes for VXI

8.1 Tarfiles,.ucshrc,edoc

```
tar -cvf /dev/nrst0 README_install
tar -cvf /dev/nrst0 create_tarfile
tar -cvf /dev/nrst0 extract_tarfile
tar -cvf /dev/nrst0 .ucshrc_tcard

cd  EDOC
tar -cvf /dev/nrst0 edoc135.latex
```

8.2 tcard.tar.Z

```
cd ../SYNOPTIQUE
sh tar_tcard.script
compress -v tcard.tar
tar -cvf /dev/nrst0 tcard.tar.Z
```

8.3 database_bin.tar.Z

```
cd ../bin
sh tar_database_bin.script
compress -v database_bin.tar
```

```
tar -cvf /dev/nrst0 database_bin.tar.Z
```

8.4 database.tar.Z

```
cd ../DATABASE/current
sh tar_database.script
compress -v database.tar
tar -cvf /dev/nrst0 database.tar.Z
```

8.5 vxi.tar.Z

```
cd ../../
tar -cvf vxi.tar ./VXI
compress -v vxi.tar
tar -cvf /dev/nrst0 vxi.tar.Z

mt -f /dev/rst0 rewind
```

9 Installation

9.1 README_install file

```
 1. please read first README_install
    tar -xvf /dev/rst0 README_install

 2. please do: mt -f /dev/nrst0 fsf

 3. please read extract_tarfile with:
     tar -xvf /dev/rst0 extract_tarfile

 4. please execute:
    sh  extract_tarfile

 5. please define environment variables
      ( see .ucshrc_tcard )
      for example  setenv HOME $PWD

 6. your installation is now finish
```

9.2 Environment variables

You find the environment variables in the file ".ucshrc_tcard"

9.2.1 Tcard and database variables

```
setenv SYNOPTIQUE $HOME/SYNOPTIQUE
setenv SPECTRE    $HOME/SPECTRA
setenv EDOC       $HOME/EDOC
```

```
setenv VISU       $HOME/VISU

setenv ACQUISITION $HOME/ACQUISITION

setenv DATABASE     $HOME/DATABASE
setenv DATABASE_VXI $HOME/DATABASE_VXI
setenv COMMON       $HOME/DATABASE/SOURCE_C/common
setenv DBMS         $HOME/DATABASE/SOURCE/dbms
```

9.2.2 Open look

```
setenv HELPPATH        $HOME/HELP:$HOME/SYNOPTIQUE
setenv OLWMMENU        $HOME/.olwmrc
setenv OPENWINHOME     /usr/openwin
setenv GUIDEHOME       /home/openwin4/GUIDE
setenv LD_LIBRARY_PATH /usr/lib:$OPENWINHOME/lib:
/home/openwin4/lib:
$GUIDEHOME/lib:/usr/lib/X11:/HOME/lang/CC/lib/sun4
```

9.2.3 Bin path

```
modify of course the PATH

setenv PATH

/home/etc:
/HOME/lang/CC/sun4c:
/usr/ucb:
/usr/bin:
/bin:/etc:
/usr/etc:
/home/tran/$cpu/lib:
/usr/sunlink/dni:
/usr/bin/X11:
/usr/5bin:
/home/bin:
/home/bin4:
/HOME/binx:
/HOME/lang:
/usr/local/bin:/usr/CC/sun4:
$OPENWINHOME/bin:
$GUIDEHOME/bin:
$HOME/SYNOPTIQUE:
$HOME/VISU:
$HOME/ACQUISITION.
```

9.3 Extract_tarfile

The tar_file contains:
README_install
create_tarfile
extract_tarfile .ucshrc_tcard
edoc135.latex
tcard.tar.Z
database_bin.tar.Z
database.tar.Z

9.4 Tarfiles,.ucshrc,edoc

```
tar -xvf /dev/nrst0 README_install
mt -f /dev/nrst0 fsf
tar -xvf /dev/nrst0 create_tarfile
mt -f /dev/nrst0 fsf
tar -xvf /dev/nrst0 extract_tarfile
mt -f /dev/nrst0 fsf
tar -xvf /dev/nrst0 .ucshrc_tcard
mt -f /dev/nrst0 fsf

mkdir EDOC
cd EDOC
tar -xvf /dev/nrst0 edoc135.latex
mt -f /dev/nrst0 fsf
```

9.5 tcard.tar.Z

```
cd ..
mkdir SYNOPTIQUE
cd SYNOPTIQUE
tar -xvf /dev/nrst0 tcard.tar.Z
uncompress tcard.tar.Z
tar -xvf tcard.tar
mt -f /dev/nrst0 fsf
```

9.6 database_bin.tar.Z

```
cd ..
mkdir bin
cd bin
tar -xvf /dev/nrst0 database_bin.tar.Z
uncompress database_bin.tar.Z
```

```
tar -xvf database_bin.tar
mt -f /dev/nrst0 fsf
```

9.7 database.tar.Z

```
cd ..
mkdir DATABASE/current
cd DATABASE/current
tar -xvf /dev/nrst0 database.tar.Z
uncompress database.tar.Z
tar -xvf database.tar
mt -f /dev/nrst0 fsf
```

9.8 vxi.tar.Z

```
tar -xvf /dev/nrst0 vxi.tar.Z
uncompress vxi.tar.Z
tar -xvf vxi.tar


mt -f /dev/rst0  rewind
```