

drudg-cdas2 使用手册

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1. 文档说明

本文件介绍 drudg-cdas2 软件生成过程文件的使用方法。过程文件是包含了控制 VLBI 台站设备运行的指令集，fs 系统通过调用过程文件自动化的控制台站设备运行观测。drudg-cdas2 软件读取 vex 文件，根据用户选择的台站、终端、记录系统的模式对应生成过程文件。

2. 生成过程文件的步骤

以 b7714a.vex 文件为例。

a) `$drudg-cdas2 b7714a.vex`

选择台站名字（这里以 Td 作为例子）：

```
Experiment name: b7714a
Experiment description: Experiment for testing the signal chains between ChangE-5 and stations
PI name: Weimin Zheng
Correlator: SHANGHAI
This is an astronomy schedule.
This is a VEX format schedule file.
NOTE: This schedule uses ADAPTIVE tape motion          GAP = 10 seconds.
# of sources: 7
# of stations: 8
# of frequency codes: 1
Stations:
Sh (SHANGHAI) Km (KUNMING) Ur (URUMQI) Tm (TIANMA65) Sd (SHANGHAD)
Kd (KUNMIND) Ud (URUMQD) Td (TIANMA6D)
Output for which station (type a code, :: or q to quit, = for all) ? █
```

b) 选择 11

```
Experiment name: b7714a
Experiment description: Experiment for testing the signal chains between ChangE-5 and stations
PI name: Weimin Zheng
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This is an astronomy schedule.
This is a VEX format schedule file.
NOTE: This schedule uses ADAPTIVE tape motion          GAP = 10 seconds.
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Sh (SHANGHAI) Km (KUNMING) Ur (URUMQI) Tm (TIANMA65) Sd (SHANGHAD)
Kd (KUNMIND) Ud (URUMQD) Td (TIANMA6D)
Output for which station (type a code, :: or q to quit, = for all) ? Td
VOBINP - Generating observations 0 36 scans in this schedule.

Equipment at TIANMA6D:
Rack: none Recorder 1: Mark5B Recorder 2: none
Select DRUDG option for schedule /home/oper/b7714a.vex at TIANMA6D
1 = Print the schedule 7 = Re-specify stations
2 = Make antenna pointing file 8 = Get a new schedule file
3 = Make SNAP file (.SNP) 9 = Change output destination, format
4 = Print complete .SNP file
5 = Print summary of .SNP file 11 = Show/set equipment type
51 = Print PI cover letter 12 = Make procedures (.PRC)
20 = Make fake lvex
0 = Done with DRUDG
7 █
```

c) 选择 22 14 1 1 然后回车

```

Equipment at TIANMA6D:
Rack: none Recorder 1: Mark5B Recorder 2: none
Select DRUDG option for schedule /home/oper/b7714a.vex at TIANMA6D
1 = Print the schedule 7 = Re-specify stations
2 = Make antenna pointing file 8 = Get a new schedule file
3 = Make SNAP file (.SNP) 9 = Change output destination, format
4 = Print complete .SNP file
5 = Print summary of .SNP file 11 = Show/set equipment type
51 = Print PI cover letter 12 = Make procedures (.PRC)
20 = Make fake lvex
0 = Done with DRUDG
711
TIANMA6D equipment: Rack=none Recorder=Mark5B
| Select rack | Select Rec 1 | Select Rec 2 | Start |
| * 1=none | 1=none | * 1=none | * 1 |
| 2=Mark3A | 2=unused | 2=unused | 2 |
| 3=VLBA | 3=Mark3A | 3=Mark3A | |
| 4=VLBA6 | 4=VLBA | 4=VLBA | |
| 5=VLBA/8 | 5=VLBA4 | 5=VLBA4 | |
| 6=VLBA4/8 | 6=Mark4 | 6=Mark4 | |
| 7=Mark4 | 7=S2 | 7=S2 | |
| 8=VLBA4 | 8=K4-1 | | |
| 9=K4-1 | 9=K4-2 | | |
| 10=K4-2 | 10=Mark5A | | |
| 11=K4-1/K3 | 11=MK5APigW | | |
| 12=K4-2/K3 | 12=MarkSP | | |
| 13=K4-1/M4 | 13=K5 | | |
| 14=K4-2/M4 | *14=MarkSB | | |
| 15=LBA | 15=MarkSC | | |
| 16=Mark5 | 16=FlexBuff | | |
| 17=VLBA5 | | | |
| 18=DBBC | | | |
| 19=DBBC/Fila18g | | | |
| 20=VLBAC | | | |
| 21=CDAS | | | |
| 22=CDAS2 | | | |
Press <ret> or type 0 for no change. Else <rack><rec1><rec2><start>
CAUTION! Be sure the schedule works with your choices!
22 14 1 1

```

d) 选择 12 生成过程文件，选择 3 生成 snap 文件。

```

Terminal
| 3=VLBA | 3=Mark3A | 3=Mark3A | | |
| 4=VLBA6 | 4=VLBA | 4=VLBA | | |
| 5=VLBA/8 | 5=VLBA4 | 5=VLBA4 | | |
| 6=VLBA4/8 | 6=Mark4 | 6=Mark4 | | |
| 7=Mark4 | 7=S2 | 7=S2 | | |
| 8=VLBA4 | 8=K4-1 | | |
| 9=K4-1 | 9=K4-2 | | |
| 10=K4-2 | 10=Mark5A | | |
| 11=K4-1/K3 | 11=MK5APigW | | |
| 12=K4-2/K3 | 12=MarkSP | | |
| 13=K4-1/M4 | 13=K5 | | |
| 14=K4-2/M4 | *14=MarkSB | | |
| 15=LBA | 15=MarkSC | | |
| 16=Mark5 | 16=FlexBuff | | |
| 17=VLBA5 | | | |
| 18=DBBC | | | |
| 19=DBBC/Fila18g | | | |
| 20=VLBAC | | | |
| 21=CDAS | | | |
| 22=CDAS2 | | | |
Press <ret> or type 0 for no change. Else <rack><rec1><rec2><start>
CAUTION! Be sure the schedule works with your choices!
22 14 1 1
EQUIP05 - CHANGED TIANMA6D rack from none to CDAS2

Equipment at TIANMA6D:
Rack: CDAS2 Recorder 1: Mark5B Recorder 2: none
Select DRUDG option for schedule /home/oper/b7714a.vex at TIANMA6D
1 = Print the schedule 7 = Re-specify stations
2 = Make antenna pointing file 8 = Get a new schedule file
3 = Make SNAP file (.SNP) 9 = Change output destination, format
4 = Print complete .SNP file
5 = Print summary of .SNP file 11 = Show/set equipment type
51 = Print PI cover letter 12 = Make procedures (.PRC)
20 = Make fake lvex
0 = Done with DRUDG
712
Procedures for TIANMA6D
OK to purge existing file /usr2/proc/b7714atd.prc (Y/N) ?

```

3. 过程文件中有关 cdas2 设备控制命令说明

e) 设备查询指令

cdas2status

功能: #查询 cdas2 的设备状态

f) cdas2 通道选择指令

mk5b_mode=ext, 0x????000?, , 32.000

设置 cdas2 的通道选择以及选择 1/2/4/8 bit 模式

高 16bit 选择 dbbc 的通道的是否使能，0 表示不使能，1 表示使能，bit 位的高位对应的是 bbc 编号的高位，bit0 定义的是 cdas2 的 1/2/4/8bit 工作模式，0 表示 1bit 工作模式，1 表示 2bit 工作模式，2 表示 4bit 工作模式，3 表示 8bit 工作模式，4 表示 16bit 工作模式。

g) cdas2 增益控制指令 (cdas2agc/cdas2man)

cdas2 设备采用 1/2/4bit 工作模式时候使用 cdas2agc 命令，8/16 模式的时候采用 cdas2man 指令。

cdas2 增益模式, cdas2agc 或者 cdas2man

h) cdas2 bbc 时钟同步指令

bbcsync=on

i) cdas2 格式器设置时间

mk5=dot_set=:force

4. b7714atd.prc 文件样例

```
define proc_library 00000000000x
" b7714a      TIANMA6D  Td
"< CDAS2      rack >< Mark5B  recorder 1>
enddef
```

```
define  exper_initi  00000000000x

proc_library

sched_initi

cdas2status          #查询 cdas2 的设备状态

endif

define  setup01      00000000000x

pcalon

tpicd=stop

pcald=stop

mk5b_mode=ext,0x00030001,,32.000  #cdas2 的掩码设置 ,
0x????0001

mk5b_mode

cdas2agc              #cdas2 增益模式, cdas2agc 或者

cdas2man

dbbc01d

ifd01

tpicd=no,0

bank_check

tpicd

endif

define  dbbc01d      00000000000x

bbc01=199.75,b,16.00
```

```
bbc02=209.75, b, 16.00
```

```
bbcsync=on #cdas2 时钟同步指令
```

```
!+1s
```

```
endif
```

```
define ifd01 00000000000x
```

```
lo=
```

```
lo=lob, 2000.00, usb, rcp, 1.000
```

```
endif
```