

## Recover from critical failure

1. Boot up the DBBC from scratch:  
Turn off the electronics, PC and main power switches on the back, then power them on in this order: Main switch, electronics switch, PC switch, (wait a couple of seconds until pressing the next one).
2. Login into windows XP  
Double click on the .exe file and press "y" wait until it's configured.
3. Boot up the Flexbuff by pressing the "on" button.
4. Login to the flexbuff from the FS and start the Jive5a program. Example "*StartJ5 mk5b -pxxxxxx*"
5. Boot up the Fieldsystem by pressing the on button.  
Type *fs*  
Type *sched\_initi, exper\_initi, setupsx*  
Sync the clocks with the *fmset* command  
Set the target values on the DBBC *collect* and *dbbcatt*  
In a terminal window execute *check\_flex.py -fb flexbuff*  
In a terminal window execute *testrec.py* and wait for the result.  
Start the schedule on the correct line.

## Resolving common flexbuff issues

### Flexbuff not responding to ping or ssh

This could be caused by a system hang, power issue, or network issue. It will be necessary to visit the flexbuff to investigate further. If the power is off, try pushing the power button. If power is on, try holding the power button down for around 5 seconds until the flexbuff power on. Wait another 5 or so seconds before pushing the power button once more. Depending on the flexbuff, it may take up to 5 minutes to become ready.

Special note for *kare*: if the system is powered (off and) on, it often happens that not all disks are initialised correctly on the first startup. This is detected automatically and the system is restarted if necessary.

### Field system reporting communication error with Mark5 (flexbuff)

This is probably caused by jive5ab not running on the flexbuff for this field system. Ssh to the required flexbuff, then see if there is a screen session corresponding to the field system to be used with the *screen -ls* command. An example from bogar can be seen here.

```
oper@bogar ~ $ screen -ls
There are screens on:
 15476.m5copy2it (05/31/2018 08:11:58 AM)      (Detached)
 15260.jive5ab_port2623 (05/31/2018 08:10:37 AM) (Detached)
 3337.j5ab_jive (05/24/2018 02:07:41 PM)      (Detached)
 3298.j5ab_vdif_rane (05/24/2018 02:07:41 PM) (Detached)
 3259.j5ab_vdif_fold (05/24/2018 02:07:41 PM) (Detached)
```

```
screen -S j5ab vdif fold
```

```
StartJ5 vdif fold
```

session without terminating it, use `ctrl+A` followed by `D`.

**No data is recorded**

log. If you see something like the following after issuing a record command

```
!record      =      6      :      mk5command/net2vbs.cc@392      assertion
[rtm==fill12vbs] fails vbsrecord can only record a known data
format;
```

then this indicates that jive5ab has not been configured, which may happen if jive5ab is restarted *after* the field system has been started. Try restarting the field system and schedule to issue the correct initialisation commands to jive5ab.

If there are no errors visible in the field system log, then check if any data is coming in to the flexbuff over the network with the iftop command executed on the flexbuff. On skinner, replace eth10 with eth100.

```
iftop -P -i eth10
```

In the below example from *FS*, you can see the first row showing an IP address of *FS* on the left, and the *FILA10G* on the right, along with the ports being used. Below this, the white bar indicates some data is being transferred, and on the far right of this you can view the data rate (the three figures are instantaneous and averages over longer periods).

	198Mb	397Mb	595Mb	794Mb	992Mb	
192.168.2.11:32630		=> 192.168.2.20:46227		0b	0b	0b
		<=		234Mb	244Mb	246Mb
130.242.10.3:ssh		=> 61.177.172.57:55411		464b	141b	35b
		<=		744b	197b	49b
130.242.10.3:ssh		=> 55.250.224.35.bc.googleusercontent.co:26632		0b	0b	190b
		<=		0b	0b	91b

If there appears to be no data flowing, then probably the FILA10G hasn't been told to start sending data. After running `fmset`, the data flow from the FILA10G is stopped. Once a schedule is loaded and initialised, the FILA10G should start sending data.

If there is still no data flowing to the flexbuff, check the FILA10G configuration is correct with the following command issued from the field system console

```
dbbc=fla10q=sysstat
```

This should return the destination IP address and port, and whether the output is disabled or started. If this looks correct then likely there is an issue with the network itself, otherwise the correct flexbuff destination can be selected by running `fmset`, choosing to sync the FILA10G and then you can choose the correct flexbuff to record to.