

# checklist replace camera box

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## For Fieldwork - commandline version

=====  
**Deploy new site or replace camera box on existing site**

*Important Note: before powering off running camera box, shutdown the system*

Commandline: poweroff  
Web GUI: Advenced -> Shutdown/reboot  
Wait for beep, then unplug power.

Date:  
Site location:  
New camera:  
Lens marking:  
=====

- Install Samyang lens and DSLR
    - power up the box, check LC shutter flickering through the viewfinder, then close the viewfinder shut
    - Note: when the DSLR is on, the LC shutter contrast is higher and flickering easier to see.*
  
  - Put a cable tie on the GPS antenna cable to label it
  - Mobile network Internet
    - Antena type:
    - systems with recently updated SW/OS image:  
  
dfn\_print\_mobile\_signal\_quality.sh
  
    - manual commands
      - 3G modem MC870x  
  
run minicom, then commands:  
at+csq  
AT!GSTATUS?
  
      - 4G modem MC7430 - for deatails see DFN wiki  
  
qmikli -d /dev/cdc-wdm1 --nas-get-signal-info
  
  - Verify internet and VPN connection, ping to VPN server  
  
ping -c 10 10.1.16.1
  
  - GPS
    - GPS to PC
      - small, ext cameras
        - cgps - shall display GPS coordinates
        - ntpq -p ... should use GSP PPS as time sync source  
  
\*SHM(1) .PPS. 0 1 6 16 377 0.000 -0.119 0.170
  
  - GPS to Microcontroller
    - DFNSMALL: LED goes green -> yellow
- or

- DFNSMALL, DFNEXT: Interval control test (or overnight run), check interval log

```
grep GPS /data0/latest/*inter*  
or
```

- Minicom, port [/dev/leostick](#), command `g G`

- Coordinates & location name to configuration file `/opt/dfn-software/dfnstation.cfg`

```
lon =  
altitude =  
hostname =  
location =  
lat =
```

- DFNSMALL only: in `dfnstation.cfg` section [camera], if Watec is "W134B [C]... verify/set `vid_format = PAL`  
(if Watec is "W134B [E] ... `vid_format = NTSC`)

- Set timezone

```
dpkg-reconfigure tzdata
```

- Hard reset test (DFNSMALL cameras only) - camera shall beep once, than again ~ minute later, then finally boot

```
hard_reset.sh
```

- Power on & test ext HDDs (eg new camera)

```
dfnsmall camera:
```

```
python /opt/dfn-software/enable_ext-hd.py; sleep 40; mount -a; df -h
```

- listed [/data0 /data1 /data2](#), check how much space left; [/data0](#) should not be full - that means all full or other HDD problem

```
python /opt/dfn-software/disable_ext-hd.py
```

```
dfnext camera:
```

```
python /opt/dfn-software/enable_ext-hd.py; sleep 20; mount /data1; mount /data2; mount data3; df -h
```

- listed [/data0 /data1 /data2 /data3](#), check how much space left; [/data0](#) should not be full - that means all full or some other HDD problem

- power off HDDs: `python /opt/dfn-software/disable_ext-hd.py`

OR

- Format HDDs - if replaced or brand new; not needed for pre-configured new DFNEXT

(this can be done remotely by a "friend on a phone")

```
power on HDDs: python /opt/dfn-software/enable_ext-hd.py
```

```
cd /root/bin
```

```
dfnext camera:
```

```
probe: ./dfn_setup_data_hdds.sh -p
```

- format: `./dfn_setup_data_hdds.sh /dev/sdb data1 /dev/sdc data2 /dev/sdd data3`

```
dfnsmall camera:
```

- Silver Orico enclosure: `setup_usb_hdds_jmicron.sh`

OR

- open Astone enclosure: `setup_usb_hdds.sh`

- power off HDDs: `python /opt/dfn-software/disable_ext-hd.py`

- Execute interval control test

[/opt/dfn-software/interval\\_control\\_test.sh](#), check \*log\_interval.txt in [/data0/latest\\_prev](#) for Errors/Warnings and that some ~3-5 NEFs were taken

- Clean lenses
- Aply nanokote on lenses (<https://www.reece.com.au/search/?query=nanokote>)
- 1st night exposure - check interval\_log.txt, images captured
- Solar powered system: check battery voltage, test battery with battery analyser (<https://www.altronics.com.au/p/q2120-digital-battery-analyser/>)

Battery type:

Battery voltage/internal resistance:

- Take a few photos of the site for record, capture anything remarkable

=====  
**Replacing old camera box - if applicable:**

- Take notes of status of the site. What was wrong?
- Remove DSLR for transport, bolt Samyang lens back to the box or use it in the new replacement box if OK
- In case of DFNSMALL, remove HDDs from the ORICO enclosure for transport back