checklist lab

Created Monday 30 August 2021, last update June 2022

Date:

Camera host name: DFN

Initial state:

Issues fixed:

DFN camera checklist - testing in lab before shipping or servicicng trip

PC

- ☐ replace PC CMOS battery

    (old battery may cause PC not boot or loosing BIOS config)

- ☐ PC BIOS config (https://wiki.dfn.net.au/index.php/Camera_Maintenance#Advanced_Usage)
    - ☐ DFNSMALL - Advantech
    - ☐ DFNSMALL - COMMELL LE-37D
    - ☐ DFNEXT - COMMELL LE-37G

Clone OS & personalise the clone

- ☐ clone new image - Clonezilla USB stick
- ☐ post clone config
    - ☐ DFNSMALL /root/bin/post_clone_config_gen2.sh
    - ☐ DFNEXT /root/bin/post_clone_config_gen3.sh
- ☐ test Internet connection (ping google or so)
- ☐ test VPN (ping dfn_vpn)
- ☐ update DFN software
    - ☐ dfn_down_install_sw_from_server.sh

- ☐ **leostick - re-flash firmware**

    leo_stick_program.sh /opt/dfn-software/micro_firmware_30_may_2017_27s.hex

- ☐ **LC shutter -** *power up the DSLR camera on DFNEXTs - otherwise the contrast is low!*

    before connecting lens to the camera system:

- ☐ with multimeter, check LC shutter contacts of the lens, for short between the two wires
- ☐ with multimeter, check LC shutter contacts of the lens, for short between each of the wires to the lens mount

    (Note: short to ground can cause LC shutter driver damage !!! Then the PCM driver may need to be fixed or replaced!!!)
    connect lens to the LC shutter connector on the PCB, but not attach to the DSLR body

- ☐ visual check if flickering when lens connected to PCB but detached from the Nikon DSLR - should be high contrasat flickering

    (do this for all the lenses packed for the trip as well!)

- ☐ power up the DSLR camera and check voltage with AC Voltemter on the lens - should be ~16-17V for EXT, 12V for SMALL

    (Also can use oscilloscope in differential mode - **but do not connect any of the signals to ground! That kills the LC shutter driver!**)

- ☐ visucal check if flickering when lens connected to PCB and attached to the Nikon DSLR - look through the eye-piece toward light - should be high contrsat flickering

GPS

- ☐ GPS to PC
    - ☐ small, ext cameras
        - ☐ cgps - shall display GPS coordinates
        - ☐ ntpq -p
- ☐ 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,](/dev/leostick) comman g G

        or

- ☐ kit cameras

    echo gG > /dev/leostick && cat /dev/leostick

Removable HDDs

- ☐ DFNSMALL
  - ☐ HDD enclosure test - with both drives, power up, format drives
  - ☐ check if data move works no problem during long term test
- ☐ DFNEXT
  - ☐ All 3 HDDs, power up, format
  - ☐ check if data move works no problem during long term test

DSLR

- ☐ verify config (SMALL: D800E, if not available, D810; EXT: D810) https://wiki.dfn.net.au/index.php/DSLR_Settings
- ☐ insert and format memory card (EXT: 32GB, SMALL: 64GB)
- ☐ check shuttercount

Video

- ☐ DFNSMALL
  - ☐ Mechanical setup
    - ☐ DIP switches
      - ☐ Gain Hi
      - ☐ Gamma Off
    - ☐ set lens to max open aperture
  - ☐ check Watec video camera is configured correctly

    in dfnstation.cfg section [camera], if Watec is "W134B [C]... verify/set vid_format = PAL
    (if Watec is "W134B [E] ... vid_format = NTSC - do not use in Australia)

- ☐ check focus of video lens

    - login as dfn-user or dfn-operator, startx
    - su, power up video camera "python enable_video.py", vid_play_test.sh

- ☐ DFNEXT
  - ☐ set lens to F/1.4 aperture (if not sharp, stop down to F/2)
  - ☐ focus using freeture

    - login as dfn-user or dfn-operator, startx
    - su, stop freeture daemon, freeture -m 2 --display, start freeture daemon
    https://wiki.dfn.net.au/index.php/Focusing_the_video_lens

Functional testing

- ☐ interval control test
- ☐ long term overnight test - at least one night, better 3-5
- ☐ specific Internet connection (Wifi? eth? Mobile data?)
  - ☐ install mobile data modem as needed, test

Configurations before transport/shipping

Software

- ☐ select modem type / configuration
- ☐ preset operator
- ☐ timezone for destination
- ☐ set root/dfn-user passwords
- ☐ Wipe the /data0 (Pre clone script /root/bin/pre_clone_config_gen2.sh), manually wipe removable drives /data1 etc

Hardware

- ☐ DFNSMALL - remove HDDs from the Orico enclosure (risk of transport damage)
- ☐ DFNSMALL and DFNEXT: remove DSLR from the box; Samyang lens can stay bolted to the box
- ☐ Packing - accessories, sunshield (https://wiki.dfn.net.au/index.php/Packing)