

HANDS ON INFO

High Definition Gear Check (F900).

Insure the camera menu has been preset by the hire company to factory condition before performing the following checks.

The check list is a guide only; any queries should be addressed to the Hire Company supplying the equipment.

Checks with Production and Post Production.

Check with production and post production on reference bars to use ie: SMPTE, 100% or 75%.

Consult with post production as to the matrix to use.

Confirm the frame rate at which the film is being shot 24fps, 25 fps etc.

Confirm whether the scanning is progressive (PsF) or interlaced (i).

Confirm if the frame rate is DF (drop frame) or NDF (non drop frame).

Notes: When shooting progressive a minimum electronic shutter should be used.

- 24fps (PsF) 1/48th Sec equivalent to 24fps with 180° shutter.
- 25fps (PsF) 1/50th Sec equivalent to 25fps with 180° shutter.
- 30fps (PsF) 1/60th Sec equivalent to 25fps with 180° shutter.

For more shutter angle values use the following. See chart

$\frac{25\text{fps} \times 360^\circ}{180^\circ} = 1/50\text{th}$ $\frac{25\text{fps} \times 360^\circ}{45^\circ} = 1/200\text{th}$

Mechanical Check.



1. Insure all switches on the camera work and are free from debris.



2. Check CCD filter (behind lens mount) is clear of dust, finger marks or scratches.
3. Mount the lens and check that there is no movement/play.
4. Maximum weight for lens mount B4 is 2kg's, check lens weight for appropriate lens support.
5. Check the battery mount is tight and that the pins are not bent or broken.
6. Check the V-lock on the rear of the camera is not cracked or broken.
7. Check screws in shoulder pad are tight.
8. Check the entrance to the cassette compartment is free from dust and debris, if necessary clean with ear bud ensuring nothing falls inside.



9. Check that the tape loads and ejects smoothly.



10. **WARNING:** The camera should be powered with 12 Volt DC only. 24/30V Batteries will blow the camera up!



NOTE: No screws should be over tightened!

(If in any doubt on mechanical check consult with Hire Company supplying the equipment).

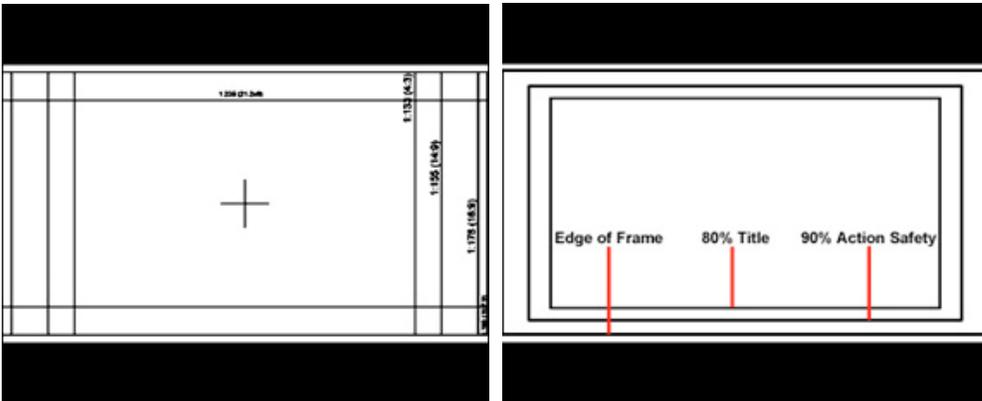
Camera warm-up.

1. Camera should be powered up for a minimum of 20 minutes.
2. The monitors that are attached to the camera should also be powered for 20 to 30 minutes.
3. The lens that will be used first should be on the while camera warms up.
4. The first stock used should be kept in the same environment as the camera. It is preferable that raw stock and camera always stay together, or at least allow for acclimatizing time of 20 to 30 minutes.
5. Check the memory stick reads and writes to and from the camera.
6. Lenses and extension eye piece should also stay within the camera environment.
ie: If the camera is kept in the camera truck outside, lens in hotel reception and raw stock kept with production in air conditioned room, it will cause RF, condensation and slack problems.

Viewfinder.



1. Check that the connector is seated properly.

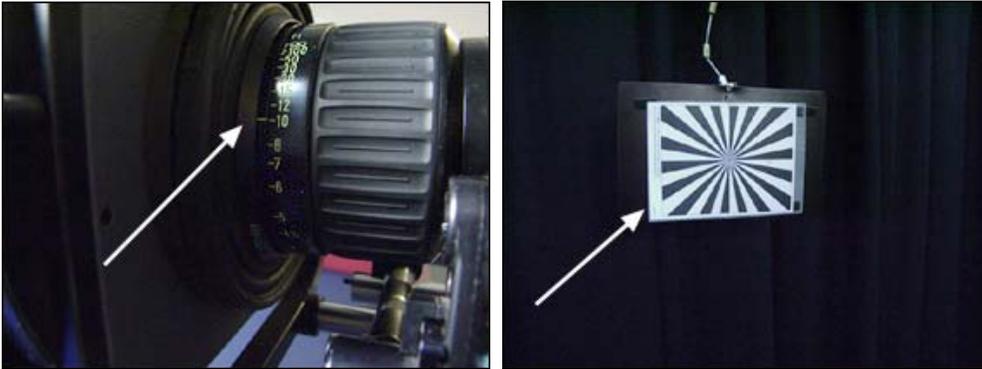


2. Set the correct graticules ie: 1:178 (16:9), 14:9, 15:9, 1:185 and 1:235 with a 90% safety marker.



3. Check mounting screws on the viewfinder are tight. Check the lock off for play...there is always a bit.
4. Align the bright and contrast on viewfinder to colour bars.
5. Set appropriate information the DOP/Operator wants to see ie: colour correction, colour temperature, gain and shutter speed.

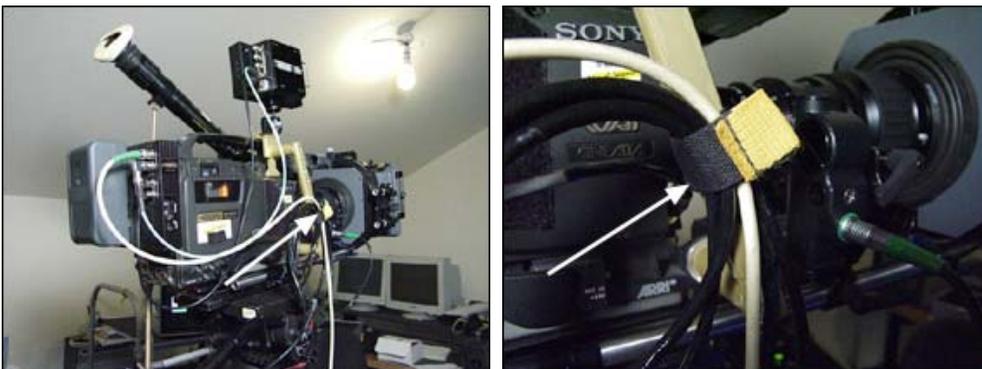
Back focus after warm-up.



1. Place the siemens star chart approximately 10 feet (3 meters) away from the camera flange marker.
2. Open the iris to the maximum F/T number ie: T2.1/f1.7
3. Zoom into the chart and focus on it.
4. Zoom out to the widest point.
5. Using the Back focus adjustment on the lens, adjust until the chart is as sharp as possible then zoom into the chart, focus and zoom out making sure the picture remains sharp.
6. Check at various focal points.
7. Always switch the camera off during lens change and battery change.

Monitor alignment after warm-up.

1. Check all BNC'S (video cables) are working.
2. Check for gauging and ask the hire company to degauss if needed.
3. Multi-scan Sony monitors have a built in colour set-up, select Colour Bars on the camera and set the monitor auto colour set-up.
4. Set the Bright and contrast to bars.
5. Ask the hire company to set the monitor with a probe if you are unsure.
6. Insure all cables are secured. If anyone steps or trips on a cable and breaks the connector on the camera or monitor it will delay the shoot and could be costly.



Notice the BNC lead is strapped down for strain relief.

Checking record functions after warm-up.

1. Insert raw stock.
2. 40 min HD tape will run 40 minutes at 30 FPS, 45 mins at 25FPS and 50 mins at 24FPS.
3. Set timecode ie: 01:00:00:00 for 1st load/tape. **See timecode article**
4. Close the Iris (f or T stop to "C").
5. Execute a Black Balance.
6. Record 30 seconds of colour bars then a few minutes of picture with motion ie: Pan the camera around with some action in the frame.
7. Test recordings should be sent to post facility for further checks and insurance.
8. While recording check for any warning messages from camera.
9. The sound recordist should send sound to record on camera for this test.
10. Play back the test recording from the camera and make sure the playback has clean pictures and sound with no drop out.
11. Connect the video assist unit when performing tests and check record and playback.

Checking for dead CCD pixels.

1. Switch between 0, 6, 12 & 18 dB of video gain and turn up the peaking on the viewfinder.
2. If you have a colour monitor switch between normal and blue only function to look for dead pixels. If the monitor has RGB select then also use this.
3. If you see a dead pixel repeat the black balance until it goes away.
4. Consult the hire company if the pixel does not clear.



Dead pixels can appear red, blue, green and white. Notice the dead pixel on the right hand side of frame.

Note: dead pixels should not be visible at 0 dB video gain.

Memory stick.



Once the camera operations have been set-up ie: graticules/display functions/frame rate/shutter speed etc, these should be recorded to the memory stick and should also be backed up. The functions should also be written down on paper for further safeguarding.

Camera assistant/loader.

It is recommended not to play back the master tape from the camera except for the camera recording test and when performing a lens return. Lens return is to confirm that the last take has clear pictures and sound before moving onto the next scene, the function plays back 5-7 seconds of the last take. If more playback is required then use a video assist unit.

* There is little evidence of tape damage when playing back from the camera however wiping/over recording of existing footage happens quite a lot.

Master footage is best left for Studio Edit machines.

* Once the recorded stock/tape is removed from the camera the Record Inhibit Tab should be the first thing pressed in or removed completely! This will avoid any chance of wiping the master footage in post production.



CAMERA SWITCH SETTINGS.

Save and Standby.



It's advisable to use the camera in the save position. This will save the head drum from constantly running on the tape in the same place while you set-up. It can also avoid head clogs and the save function will save on battery life. Save needs approximately 3.5 seconds for run up to speed.

* If instant recording is needed then use the camera in the stand-by position ie: wildlife, news or where any other unpredictable recording is required.

Note: To make the post production editing timecode trouble free... record 3 to 5 seconds before action, this will help timecode lock-up and clean EDL'S.

Colour correction.



The default colour temperature of the CCD is 3200K.
The CC filters are as follows:

- A is an effect filter (4 point star) with no colour correction.
- B has no effect and no colour correction.
- C is 4300K close to a film equivalent CC of 81EF (3200K to 4140K) stop loss approx 2/3rd of a stop.
- D is 6300K close to a film equivalent CC of 85B (3200K to 5500K) stop loss approx 1 1/3rd of a stop.
- ND 1 No ND filter "clear".
- ND 2 full 1/4 : stop loss **2**. Equivalent to ND 0.6
- ND 3 full 1/16: stop loss **4**. Equivalent to ND 1.2
- ND 4 full 1/64: stop loss **6**. Equivalent to ND 1.8

Note: There is an option for shooting 5600K called D5600. This is a Digital set-up and is found in the camera menu. D5600K can be used while on filter wheel B: colour correction 3200K to 5600K with no stop loss!

Whether you are buying or renting High Definition equipment, Visuals has the solution.

Visuals Group Technical Department.