

Equipment Test Procedures

The purpose of this document is to clarify the terms and references of what procedures the Media Systems Group can perform departments make requests to have equipment tested. Please note that in the digital world the standard procedure used to determine if recording heads are old an/or worn out is through bit error detection. Bit error detection requires electronic scopes that the employee's may(or may not) have in their possession.

Tape Recorder Test Procedures

Nagra Recorder Test procedures

This procedure is common to all models.

1. Heads, tape guides, pinch roller and idler rollers cleaned.
2. Roller bearings disassembled, cleaned and lubricated if necessary.
3. Pinch roller bearing checked for noise and replaced if necessary.
4. Upper capstan bearing checked for wear.
5. Speed timing tape run to check for motor speed.
6. Record/reproduce alignment checked..
 - a. Head azimuth checked at this point.
7. Transport functions checked.
 - a. FFWD/REW/etc.
8. Mechanical integrity of case checked.
 - a. Often have to re-shaped and bang out casting due to misuse.

Digital Audio Tape (DAT) Recorder Test Procedures

Tascam DA-P1 Portable DAT:

1. Blow dirt and dust out from inside unit.
2. Clean drum assembly, capstan, pinch roller, tape guides.
3. Check for damaged main idler gear.
4. Check cassette holder loading belt.
5. Add a miniscule drop of oil to upper capstan bearing.
6. Check transport functions (FFWD/REW/etc.)
7. Record about 5 minutes of analogue audio and play it back.
8. Check bit error rate with front panel controls with a standard tape, recorded on a new DAT recorder as a reference.

Tascam DA-20's

- Same procedure as DA-P1's.

Tascam DA-30's

- Same as DA-P1's, but bit error is not checked because department does not own test equipment

Tascam DA-30MKII

- Same as DA-P1's, but bit error is not checked because department does not own test equipment

Tascam DA-40

- Same procedure as DA-P1's.

Tascam DA-38/DA-88's

- No regular maintenance performed, only emergency service.
- Head replacement determined by drum hour meter on front panel.
- Bit error is not checked because department does not own test equipment

DVC-Pro Camera's

It should be noted that in the world of DV Technology only DVC-Pro technology is supported by the Media Systems Technology Group. In terms of maintenance procedures the group has no specialized technology to do any advanced maintenance checks on the various components that the Faculty of Communication and Design have obtained for Academic courses. As such the group really can't test the equipment in any manner beyond Operational checks that are performed by operational staff. When the camera of VTR is not operating correctly, it's at that point, at which the Media Systems Technology Group should be alerted to the problem by initiating a fault report. If the group cannot fix the problem then they can ship it out for repair.

At the end of every semester, the school or departments operational staff will apply the following procedure as a check to ensure the integrity of the camera.

Camcorder Operational Checklist

1. Visually inspect each camcorder, viewfinder, lens, microphone and every switch. These components should be mechanically secure and fully functional. In particular, check and retighten any loose cabinet screws on the camcorder housing. If any lens has loose or missing screws, please ship entire camcorder to Rogers for attention.
2. Power up the camcorder and connect a colour monitor to the video output. Perform auto black/white balance while shooting a plain white card. Confirm successful auto white balance by watching status messages in the viewfinder, and verify that the camcorder produces good quality sharp images.

3. With the lens iris on manual setting, open the iris fully and perform lens back-focus on a starburst test chart at least 5 Metres away. This operation may be more easily accomplished in low ambient light if camera gain is increased.
4. Insert a recordable videotape cassette and place camcorder into record mode, using the internal camera colour bars. After one minute of colour bars, shoot a live image. Verify proper viewfinder picture and on-screen cues, then check tally lamps as well. Monitor the sound quality with headphones or internal speaker on the camcorder.
5. Operate the camcorder in playback mode and view video both in the viewfinder and the colour monitor. Monitor the sound quality with headphones or internal speaker.
6. Clean mirror and optical surfaces of viewfinder and camera lens with a soft lens brush, lint-free cloth and a dust blower.
7. Never attempt to physically clean any DVC-Pro or DV camcorder's tape heads or transport path. So-called cleaning tapes will invariably result in head damage. ie. No Q-Tips and alcohol.
8. If any camcorder components are found to be broken or loose, or there are obvious operational problems, first document the fault in BCAM, and then please arrange to have the units sent to Rogers for servicing.