

Marriott Library: Digitization Best Practices: Digitizing Motion Picture Film and Video

16MM FILM

For 16mm film we recommend digitizing at the highest resolution possible for 16mm films. We currently digitize at 2,500 resolution or 2.5k. We use the Lasergraphics ScanStation. Clean your film and your machine before starting, and always save files in an uncompressed format (see Format below).

- Film Handling and Preparation – All film should be carefully inspected before scanning. Always handle film by the edges. Always wear cotton gloves when handling motion picture film. Clean the film of dirt and dust with a clean, dry, non-abrasive cloth. Check all splices on the film and replace any splices that are brittle. Check splice strength by gently tugging at both sides around the splice. Replace all tape splices as they tend to leave a sticky residue.
- Any residue or dirt that does not come off with a dry cloth can be cleaned with a film cleaning solution. We recommend using FilmRenew or a comparable film cleaning agent. NEVER use alcohol of any kind because some types can soften the emulsion, or the base, and can increase the risk of abrasion during the cleaning process. Alcohols are not good oil solvents because they can remove magnetic striping, are highly flammable, and can lead to moisture condensation. On film with magnetic tracks, first check the cleaning solution on a short section of film. If a brown color appears on the cloth, stop! An approved film cleaner is suitable for use with most magnetic striping, provided contact is brief. When cleaning with film solvents, ensure there is adequate ventilation in the work area.
- Film that is very warped or shrunken should be slowly turned on a rewind to allow acclimation. Repair any broken brackets before loading film into the machine. Look at the film to determine if it has a soundtrack. If you see a magnetic stripe or a clear waveform along one side, instead of brackets, the film most likely has sound.
- Machine Settings – Make sure your machine is regularly cleaned of dust and debris with a cloth and alcohol. Clean the camera carefully with a lens cloth. Our machine has two rollers that help pick up any extra dust from the film prior to digitization, We recommend using these rollers and keeping them clean. Our machine has the capability to scan magnetic or optical sound. If the film has a soundtrack, attach the appropriate sound head. We always run through the film once before scanning to make sure everything is framed up right. We do color adjustments prior to any digitization.
- Format – We output our digital files as uncompressed .mov files.

OTHER FILM FORMATS

We do not currently scan other film formats such as 8mm, Super 8 or 35mm, but the above practices for 16mm film handling should be used for other film formats as well.

Digitizing Video

VHS MATERIAL

We recommend purchasing a professional, well-cared-for VHS tape deck for digitizing VHS material. We currently use a Panasonic PV-7662. If possible, it is beneficial to have a VHS tape deck that can play materials from different regions. Always digitize video material to its native resolution. Usually this is 640 x 480 or 720 x 480.

- VHS Handling – Avoid touching the actual ribbon inside the tape. Make sure the tape is rewound. Never discard or otherwise destroy a master copy even after digitizing.
- Tape Deck – VHS tape decks don't need too much care. Occasionally you may have to open up the machine and clean the heads with alcohol and a non-abrasive cloth.
- Format – As with film, we use Final Cut Pro to digitize all files into MOV containers using uncompressed codecs.

U-MATIC MATERIAL

As with VHS material, you will need a good U-Matic tape deck. As these machines tend to break down often, you might need several tape decks of the same kind to scavenge for working parts. We use a Sony VO-9850. Always digitize video material to its native resolution.

- U-matic Handling – Avoid touching the ribbon inside the tape. If you must open the tape to handle the ribbon inside, wear cotton gloves and be very careful that it doesn't snap closed and crumple the ribbon.
- Tape Deck – U-matic tape decks are finicky machines. You will want to open the machine often and clean everything (especially the central metal column) with alcohol and non-abrasive cloth. This will help reduce the risk of your tape getting stuck. If the tape does get stuck you will have to turn the machine by hand until it rewinds the tape and gets to a point where you can eject it.
- Format – Follow the same procedures as with VHS tapes.

OTHER VIDEO FORMATS

We do not currently scan other video formats such as Betacam or open reel video. But generally the above practices and common sense can be applied to any video digitization scenario.