

LIFT Telecine Suite Guide

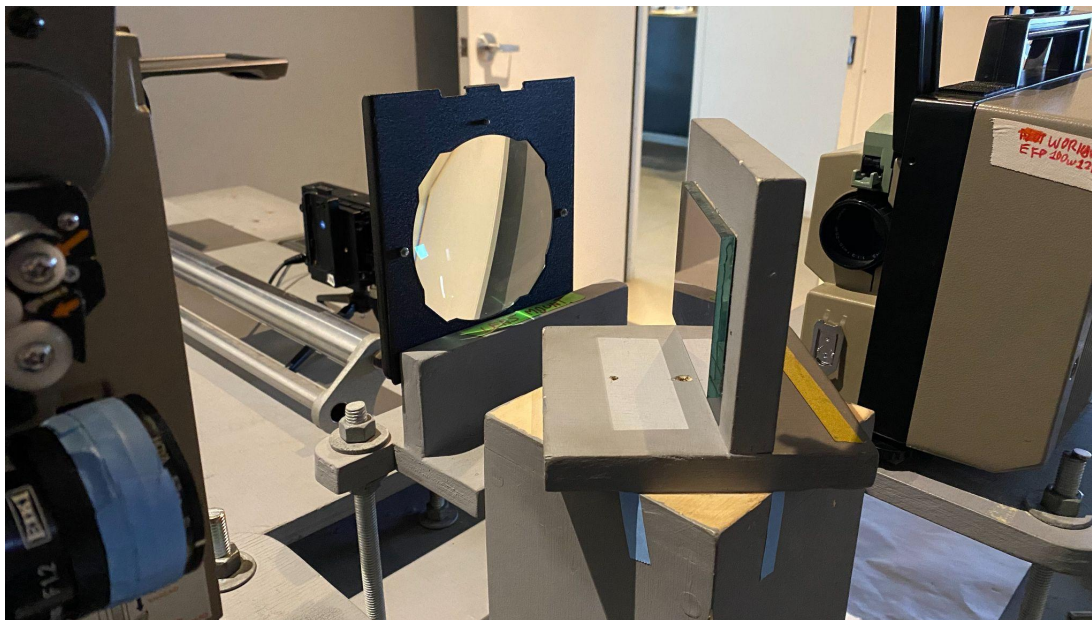
(November 2023 - Noah Henderson)

The Telecine suit consists of two projectors and a BlackMagic Ursa 4K camera. Using a prism and a diopter mounted on the table, a projector will project the film into a lens mounted on the Ursa digital camera so that a digital capture can be created of the projected image!

BENCH

The Telecine suite has a small setup bench for viewing and winding through your film. There are take-up reels for the projectors, film rewinds, and small viewers.

POSITIONING, THREADING & PROJECTING

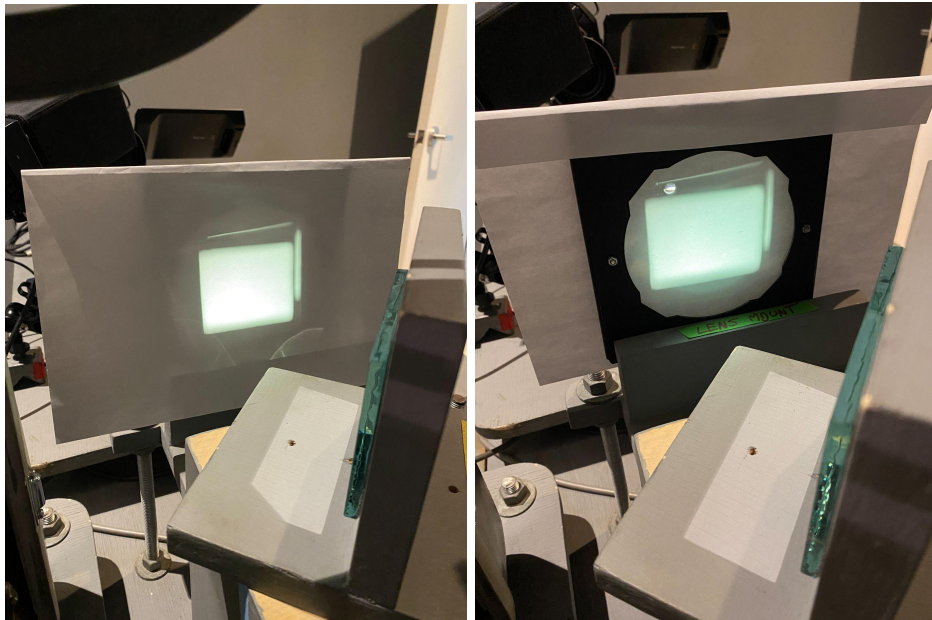


When projecting onto the Ursa, the mirror between the projector needs to be positioned properly so that it will reflect the image through the diopter and into the camera lens. There are pencil marks on the base and lining the rotating mirror up with these will get you to a good starting position (the pencil marks can be referred to for either 16 or S8/8, by just rotating the mirror around to face the proper projector).

Rotating the mirror further will allow for some fine tuning of this positioning, but it is a very small area before it begins to be cut off.

The projectors are on platforms that **shouldn't** be adjusted and have marks for where the projector sits.

Using a sheet of paper, you can easily see the projected area on the diopter. It should sit in the middle of the diopter:



Super 8



The Elmo ST-180 M-0 2-Track is a Super 8 sound projector (capable of magnetic or optical soundtrack playback) that features autoloading and speed control. Press down on the green switch located above the focus knob to engage threading guides. Insert film into the front slot and it will thread and exit at the back by the take-up reel.

If loading jams then you can open the side panel of the projector. I find it sometimes hits the black guide at the front bottom by the soundhead a little awkwardly and may need a bit of help to get past that.

At the rear of the projector is a switch for changing between 18fps and 24fps playback speed. A SPEED knob at the top of the projector allows for slight adjustments to playback speed.



For capturing Super 8 at different framerates, have the proper shutter angle on the Ursa set to the right option to reduce the flicker of the projection

AT 18FPS USE A 150° SHUTTER

AT 24FPS USE A 120° SHUTTER

Adjust the focus knob until the green focus aides on the Ursa begin to appear (If these aren't appearing then press: FOCUS on the Ursa).

Pressing the IRIS button on the Ursa will automatically adjust the aperture of the camera. You can also manually adjust the aperture by holding the "IRIS" button and pressing the >| or <| buttons on the screen to set a manual F-stop.

As the IRIS of the Ursa becomes smaller, you will have a lot of vignetting (especially on 8/Super 8). You can increase the shutter angle of the Ursa if your images are too bright and want to avoid vignetting, but you will have more flicker at higher shutter angles.

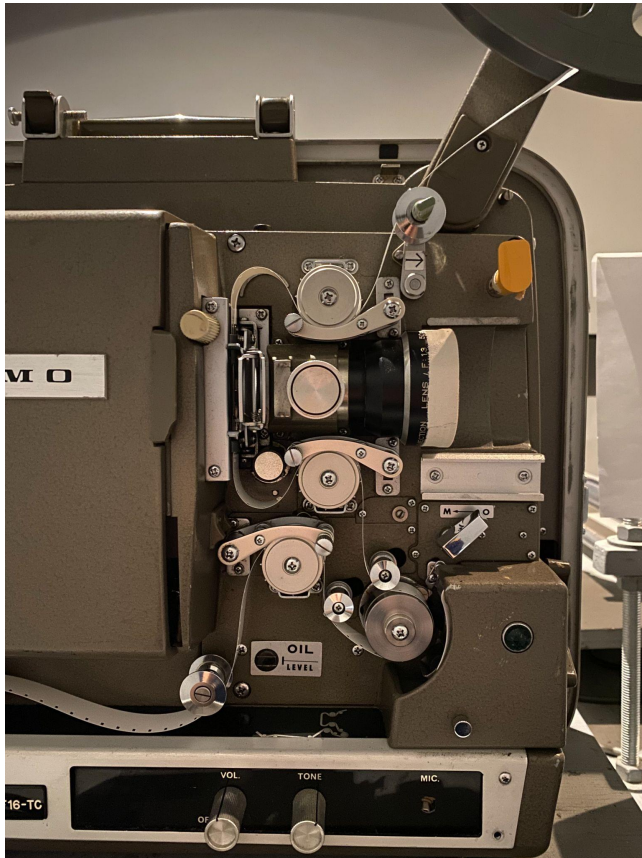
Regular 8

The Elmo ST-180 Regular 8 is a Regular 8mm sound projector (magnetic soundtrack only) that features autoloading and speed control. Autoloading and adjusting the speed on this model works the same as on the Elmo Super 8 projector.

The Regular 8 projector has no frame rate options for playback (Regular 8 frame rate is 16fps). It does have a small speed adjustment knob at the top to change the speed slightly.

When capturing Regular 8mm use a 150° SHUTTER on the Ursa to reduce projection flicker

16mm



The telecine suite uses an Elmo 16mm Projector. This projector is a MANUAL threading projector and you must properly load your film in the projector before running it.

A threading diagram for the projector is located on the base of the projector, as well there is a separate sheet on the table for further loading details.

This projector doesn't have a functioning rewind. If you want to rewind you can set it to rewind and slowly turn the front reel manually or you can unthread and rewind on the bench.

Once the film is threaded through the projector, turn the dial to **FWD** (Forward) to make sure it is running properly. To turn on the lamp and begin projecting turn the dial to **LAMP**



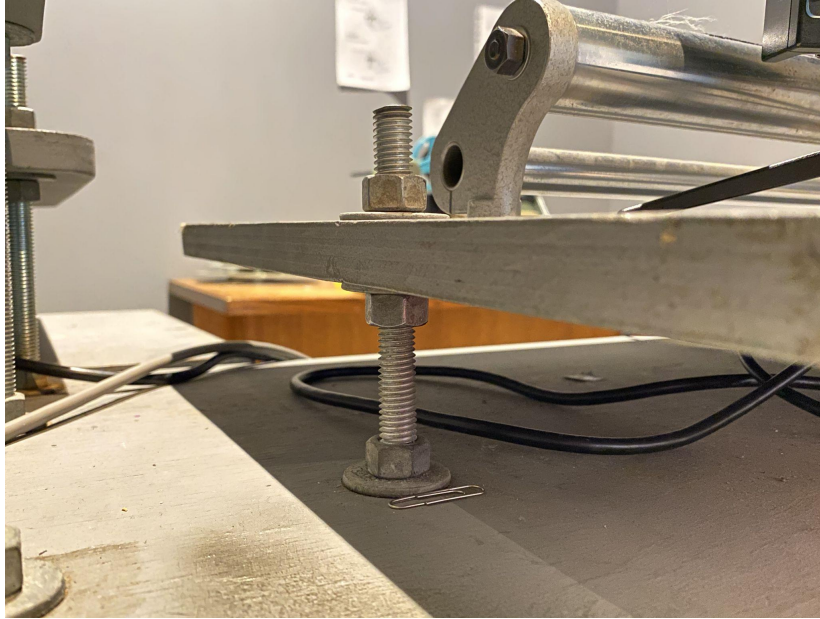
Adjust the silver focus knob beside the lens until the green focus aides on the Ursa begin to appear (If these aren't appearing then press: FOCUS on the Ursa).

When capturing 16mm use a 180° SHUTTER on the Ursa to reduce projection flicker

ADJUST FRAMING

On the Ursa the lens can be zoomed in or out to fine-tune the framing of your capture.

To adjust the frame of your capture up or down, use the nut at the front of the camera platform to move the camera up or down slightly.



URSA DETAILS

The small battery powered monitor can be switched on for viewing the frame on the Ursa without needing to be beside the camera.

When you begin to project your film, you can adjust the projector's focus until it is sharp on the Ursa's screen. You can also adjust the focus on the Ursa's lens (the ring at the front of the lens). Focusing aids on the Ursa can be used by pressing the 'FOCUS' button on the camera. These green guides will show you once things are in focus and can be left on while recording (they will not appear on the final video).

The aperture of the Ursa can also be adjusted by pressing the "IRIS" button and the aperture will adjust automatically based on the image. You can also manually adjust the aperture by holding the "IRIS" button and pressing the >| or |< buttons on the screen to set a manual F-stop.

As the IRIS of the Ursa becomes smaller though, you will have a lot of vignetting (especially on 8/Super 8). You can increase the shutter angle of the Ursa if your images are too bright and want to avoid vignetting, but you will have more flicker at higher shutter angles.

Areas that are too bright on the projection are indicated on the Ursa's screen with black and white bars. These can be turned on or off by pressing PEAK.

The Ursa's shutter angle can be adjusted to reduce flickering based on the speed of the projector. See previous sections for best angle to use with 8/S8/16mm. To change the shutter angle press the MENU button on the Ursa and it will be on the first page of options.

The Ursa should also remain at 200iso, this is the lowest iso for the camera and introduces the least amount of digital noise.



The video quality of the Ursa can be adjusted by pressing the MENU button and tapping on the circular button to access the RECORD menu. You can select a ProRes codec which will give you a Quicktime MOV file.

These codecs impact the quality and file size of the final file.

ProRes 444HQ is the highest quality followed by:

ProRes 444

ProRes HQ

ProRes 422

ProRes LT

ProRes Proxy

CODEC	Space on 250gb SSD (1080)	Space on 250gb SSD (4K)
ProRes 444HQ	71 minutes	17 minutes
ProRes 444	106 minutes	26 minutes
ProRes HQ	159 minutes	39 minutes
ProRes 422	237 minutes	59 minutes
ProRes LT	338 minutes	85 minutes
ProRes Proxy	738 minutes	191 minutes

ProRes 422 is my recommendation for good quality and manageable file sizes on the 250gb SSD that the Ursa records to.

You can also select between a resolution of 3840x2160 or 1920x1080. Because 16, 8 and Super 8 are rarely widescreen, you will have black space around the projector frame on the Ursa.

CAPTURING VIDEO

To begin capture press RECORD on the Ursa. The Ursa is set up to capture video at 24fps regardless of projection speed. The speed of your recording can be adjusted afterwards in editing.

COMPUTER SIDE OF THINGS



The telecine suite has 2 250gb SSD's for storage that work with the Ursa camera. A drive can be loaded into the reader on top of the camera for storage and then removed and placed into the WAVLINK dock connected to the iMac for off loading onto your own drive.

Video files cannot be deleted from the drive through the camera menus. You can however format a drive on the Ursa by pressing DISPLAY and then FORMAT CARD.



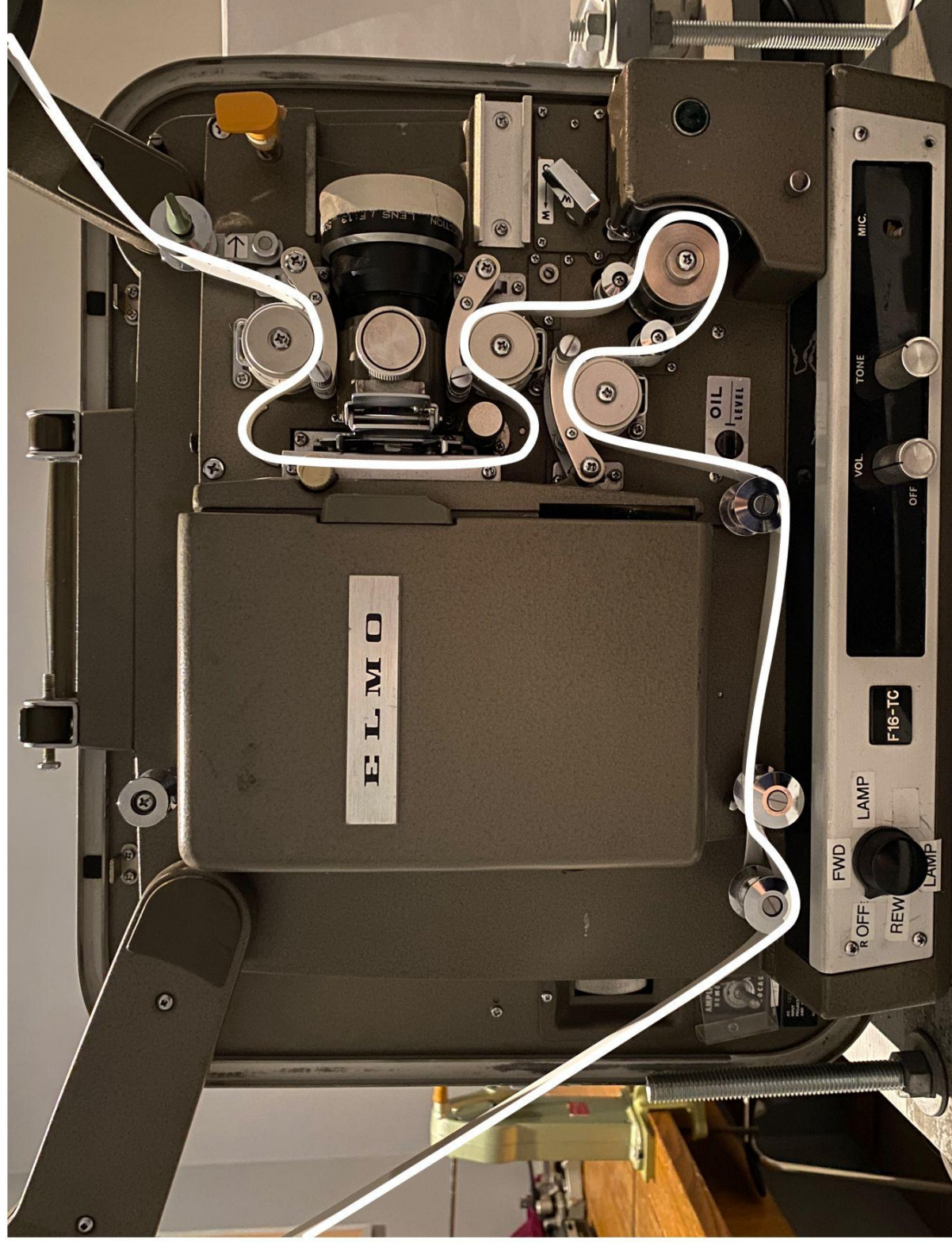
For taking files off of the drive:

- 1. Make sure the Power button on the back of dock is turned off*
- 2. Insert the drive into either of the two slots (making sure it plugs in)*
- 3. Turn the Dock on with the switch on the back (Light on the front button comes on)*
- 4. You will see the Drive show up on the iMac that you can now access*

You can also delete files from the drive once you have it plugged into the iMac. Delete them and then empty the trash to free up space on the Drive.

Elmo 16mm Projector Threading

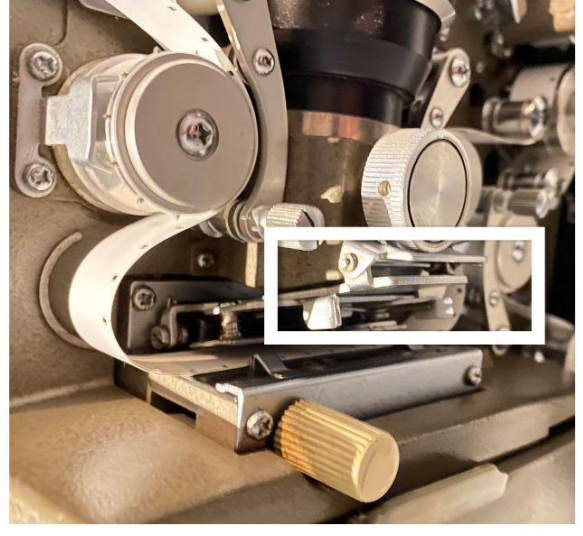
Follow the black line to thread your film. Be sure the film forms a proper sized loop above and below the projector gate area.
(More details on flip-side)



Projector gate can be opened and closed for threading. Push it towards the lens to open



Gate Closed



Gate Open



These guides can open to allow for easy threading.
BE SURE TO CLOSE BEFORE RUNNING!