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## INTRODUCTION

### LEADERS – CUE MARKS – AND TAILS

My name is Chip Gelmini and I have been running motion picture projectors for years. I started when I was 5 with toy projectors. By middle school I was well advanced and running 16mm during classes. As a career, I was a projectionist in cinema and drive in for 35 years. And now at age 57, I have a setup at home that rivals 35mm but it runs super 8. Some of the procedures on the job I have developed for the smaller gauge film. And now as you read this, I share one of the most important ideas with you.

In this document, you will learn how to prepare your films for easy, quick and professional projection in your home super 8 theater. It all begins with timing. Be one second off, and well, you deal with whatever happens. But be spot on, and you will ask yourself, “wow did I just do that?” And your audience might comment, “Thanks for tonight – it was better than going to the multiplex!”

Because super 8 is so small, you will learn how to mark it allowing you to easily spot the sections when you are threading the reel. This mark will put the film not only in the projector, but exactly where it belongs inside the machine before the reel is struck by light and blown up to the screen.

Today you learn that you will no longer try and guess. After today, from hereon in, you now are running like the old days of changeovers in the theaters. Before the platters, before the digital. Starting tonight, you proudly perform your shows with what has been lacking for a long time: Showmanship.

If you want to run with changeovers for no interruption between reels, you'll need to smarten up a bit. You'll want to have a good pair of rewind hand cranks mounted to a decent sized bench top with plenty of light to see your work.

You will also need two projectors. And it's a good idea to have twin identical models, so that each of the machines run the same and give equal amount of brightness across the screen. Let me be clear: this means not only two identical models, but also with the same kind of zoom lenses based on the millimeter and F-stop specs. It's that important! Even the lamps should be identical brands. They should also be in tip top shape – free of any issues which could make your screening have problems. So get your equipment, and once you have it make sure it is good to go. Without that, the purpose of changeovers will be defeated.

You will also learn how to make a leader. It's so easy. Perhaps you require one of those standard count down leaders but you don't have one. You want this because you know one of those numbers has to be inside the projector for proper start up distance. You will learn how to measure out the distance, and make an easy to see line where the most important number is, and when that line comes off the reel during auto load you'll know where to stop it in the machine. In this manner the numbers might not be there, but the line will do what you need. If you don't have the original – you make one that works but is not complete.

So here we go. Sit back, relax. Take a deep breath. Start reading. And in no time, you will be rethinking on how you should be running your shows.

## LEADERS

You decide. Should I use heads with countdowns? Or white without countdowns? How do I know when to stop during auto loading? Can I make a leader from scrap film?

Countdowns are the best as they are useful when recording.

Kodak white leader is good when you want something plain.

Scrap film is good too as long as it's not really old and brittle. It must be soft and flexible throughout the film path.

From (first) projected frames to the starting point is about 6 seconds. Which means on a standard countdown that is number 8. If you measure the distance with a ruler, you get about 16 & 1/2 inches.

One of the drawings shows all of this. By using a white China Marker (Berol or Dixon @ Staples or other office supply stores) you can make a white line between the magnetic stripes. This line should be about 6 inches long, with number 8 in the middle. So this means when writing on the film, the mag stripe should be towards you and/or up. Because the countdown will generally be a darker black plastic film, the white line is easier to spot.

On a Kodak leader, you measure out the 16 & 1/2 inches from the first projected frame. With what would be the soundtrack up, you make a red or blue line the same 4 inches in length. Let's be clear here that the number 8 if it was there would also be in the middle. Don't forget extra length just to auto load and attach to the take up reel.

Here's the best part of these lines:

As you auto load, the film comes off the reel entering the projector. Don't squint your eyes trying to see that tiny little frame of number 8. Just wait for that long white line. As it comes off the reel, STOP the auto load when the middle of the line (or number 8) is in the TOP picture loop just inside the top sprocket.

Now you have done it! You have found that special number, and have placed it in the projector where it has to be! You can be proud of this. You're half way there to professional shows.

Whether you have proper leader for recording, or white leader for general use, rejoice! You can thread your projector the way it was done in the theaters like years ago!

## CUE MARKS

The black dot in the upper right corner.

How come some super 8 prints have it and some don't?

In theory of course, when movies began to be made in wider formats such as 1.85 and 2.35; this was for theaters. When the movies came on super 8, production companies panned and scanned everything down to 1.33. Anything on the sides, got cropped, or cut...off. On other prints that were mastered on super 8 for 600 foot reels, well, that was a different kind of cropping. Maybe the cues were there, but they were in the middle – but not at the end – of a reel.

On theater release prints there were two sets of cues – first and second. They were four frames each. The first cue was used to start the new reel projector motor. A few seconds later – the second set was used to step on a pedal to change the picture – and hit a wall switch to change the sound. In a matters of “seconds” this was completed. And the projectionist walked to the other machine as the tail ran through and shut it down.

So how do I put cues in my print? Where do they go? How far between should they be separated?

This part of this document will be a little more complicated than making a leader. I'll explain it the best I can, but it is my nature to explain in detail, rather than not. So here goes.

The easiest way to measure distance between the cues is by hand cranking. You have to figure out the gear ratio, and then know how far the hand crank “handle” will move as your finger glides the film through. When you have reached that so called distance either the first or second cue will go where your finger is holding the film. Figuring this out takes time. But once you know what it is then this is the fastest way to put cues on your print.

The other way to put the cues in is like prepping the leaders. You simply measure the distance in inches. So that we can begin, let's again understand the process of the cue marks as explained earlier:

FIRST CUE: Start the motor and film going through the machine.

Then after a few seconds

SECOND CUE: Change the picture and sound between machines at the same time.  
There should be NO delay. It must be done EXACT.

Continued

To prep a print for cue marks, you will need long black leader. Just like the Kodak white leader. It's plain and simple. But it has to be black. No other color is acceptable.

We've all seen what the screen looks like when a standard tail from the lab goes on the screen. It's ugly. The projectionist gets grumpy. And your audience finds it humorous. And the projectionist gets even more grumpy.

Black leader is brilliant for this because it permits a well-hidden double exposure. The black tail leader going through on the ending machine – and the fresh projected image of the reel that is now underway. There's nothing ugly about that.

So splice 3 to 5 feet of black leader at the end of the reel. This allows not only for your double exposure, but also a little extra in case there are issues such as frame and focus of the new reel just begun.

But remember, you only have a few seconds before it runs out, and you **MUST QUICKLY** shut off the light of the machine shutting down before it does.

So how long does a changeover take?

Perhaps if you remember what you have learned so far you might guess it right.

Let's pause here for 10 seconds and see if you can.

After the pause, please continue to the next page.

Did you guess remember the leader prep? Did you think of number 8 in the top loop? Did you remember the top loop number 8 is SIX SECONDS to picture?

If yes congratulations. You're on the way of being an expert projectionist.

That's right. The distance between cues in seconds of time is the same as number 8 in the top loop.

And it works because timing is everything. To start one machine, the other just be running already. When you are doing changeovers and mastering this, you will hear any leader or tail splices going through if not seconds apart perhaps less than that. Tail and leader splices are the exception to allowing a delay. These splices DO NOT have to be at the same time. And don't panic if you don't hear them. Some really good splices are very quiet. And some ends of reels at the beginning or tail if you have not done editing might not have a splice at all.

So what are those measurements in inches?

FIRST CUE: 30 & 1/2 INCHES BETWEEN FIRST AND SECOND CUE

SECOND CUE: 4 INCHES FROM LAST PROJECTED FRAME OR BLACK LEADER SPLICE

BLACK LEADER: 3 TO 5 FEET AS A TAIL LENGTH

So, how do I put a cue mark on the print?

Locate the perforation. Without touching the frame, move a tiny eye glass screwdriver to the middle of the frame and place it on the emulsion. Make a very tiny but very obvious scratch. It should be a short straight line. Never wavy or diagonal. You want it to be there – but you don't want your guests to notice.

Repeat this step for cue 2. Make certain the measurement is correct.

Any tips for doing this?

Yes. Start at the tail end and work back. From the tail splice, measure 4 inches and place cue 2.

From cue 2, measure back 30&1/2 inches and place cue 1.

When done, rewind the reel and you are almost ready for projection.

Continued

## SOUND

This section is for the sound changeover which will be done regardless of what kind of sound, magnetic or optical, stereo or mono you are running. The sound changeover is as important as the picture changeover.

Most importantly, this must be done in sync with cue 2. You CANNOT have a delay with this step.

Best advice: Use a receiver you already have for your projector sound inputs. Such as Projector 1 to VCR 1, and projector 2 to VCR 2. Then use the receiver remote to switch between VCR inputs as you switch the picture changeover at the same time at cue 2.

Refer to your projector's manual for connecting to a receiver source as far as that is concerned this document does not cover projector sound installation connections.

As with the other two chapters, sound requires timing for this to be right. But you really don't have to do anything with sound except change it over properly when required, and know where to have your volume set (that's also not covered here).

But just so you know, in the labs sound is placed about 16 or so frames before the action on the frame. That means the synced sound is already at the sound head when the picture is coming out the lens to the screen.

So the good news about sound is know where you're at, and the rest is automatic.

We do not cover projector installation or setup because we don't know what your screening room is like, what kind of sound system you have, or what projectors you have chosen to own. So this step can only be done by you.

Continued

## CLOSING COMMENTS

To get the idea of changeovers going, here's something you can try at home. It is advised that you let a house mate know what you're doing otherwise they might think you need psychiatric help:

Most of us should have a ceiling light in the kitchen and the hallway outside of the kitchen. Likewise these lamps should be on separate switches. Assuming bulbs in the sockets are instant on and do not have a delay coming to brightness, try doing a changeover using the wall switches assuming both switches are in the same wall plate.

The goal is to switch from one light to the other. One must go on at the same time as the other goes off. There should be NO delay.

As for the sound, you have done this already many times. When you have switched from cable box to dvd, or vcr to laserdisc. All you need to do now is master both picture AND sound at the same time.

Once you have found a way to get the idea as described above, you will be ready to try it with projectors.

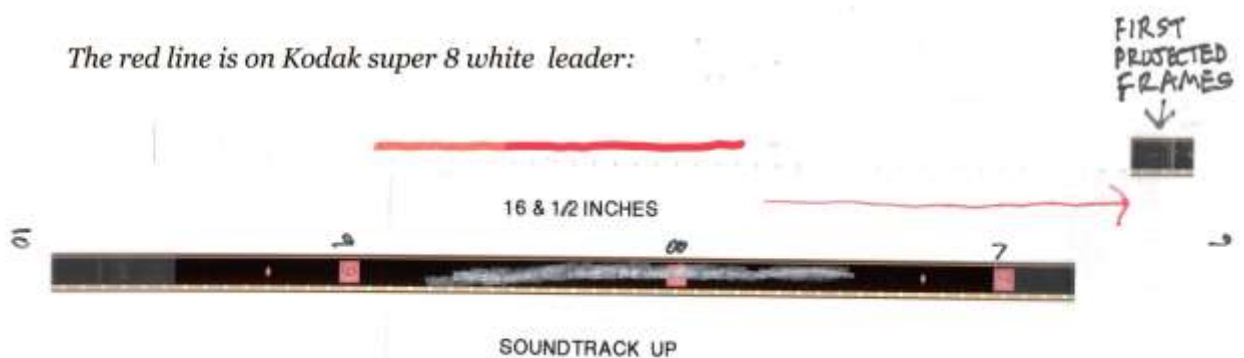
Remember from the time the first reel starts, you don't have to do much until the last 3 minutes of the reel. At this time, you will go behind your machines, make sure everything is in check. You will turn on the machine power that has the next reel. Verify the white line is in the top loop; the sound output is up and ready if the volume knob works as a pre-amp to the receiver; that the film is properly threaded and attached to the take up reel, and so on. Make sure everything is ready to go.

The final minute before the changeover happens you need to stare, and I do mean STARE at the screen. Do not look at anything else. Not your audience. Not the edges of the picture. But do stare at the CENTER because that's where your cues will be. Don't even blink. The last 6 seconds happens very fast. Don't lose or forget about this excellent opportunity to give your shows ultimate high class.

Thanks for reading this, and may the changeover be with you!

Continue to pictures



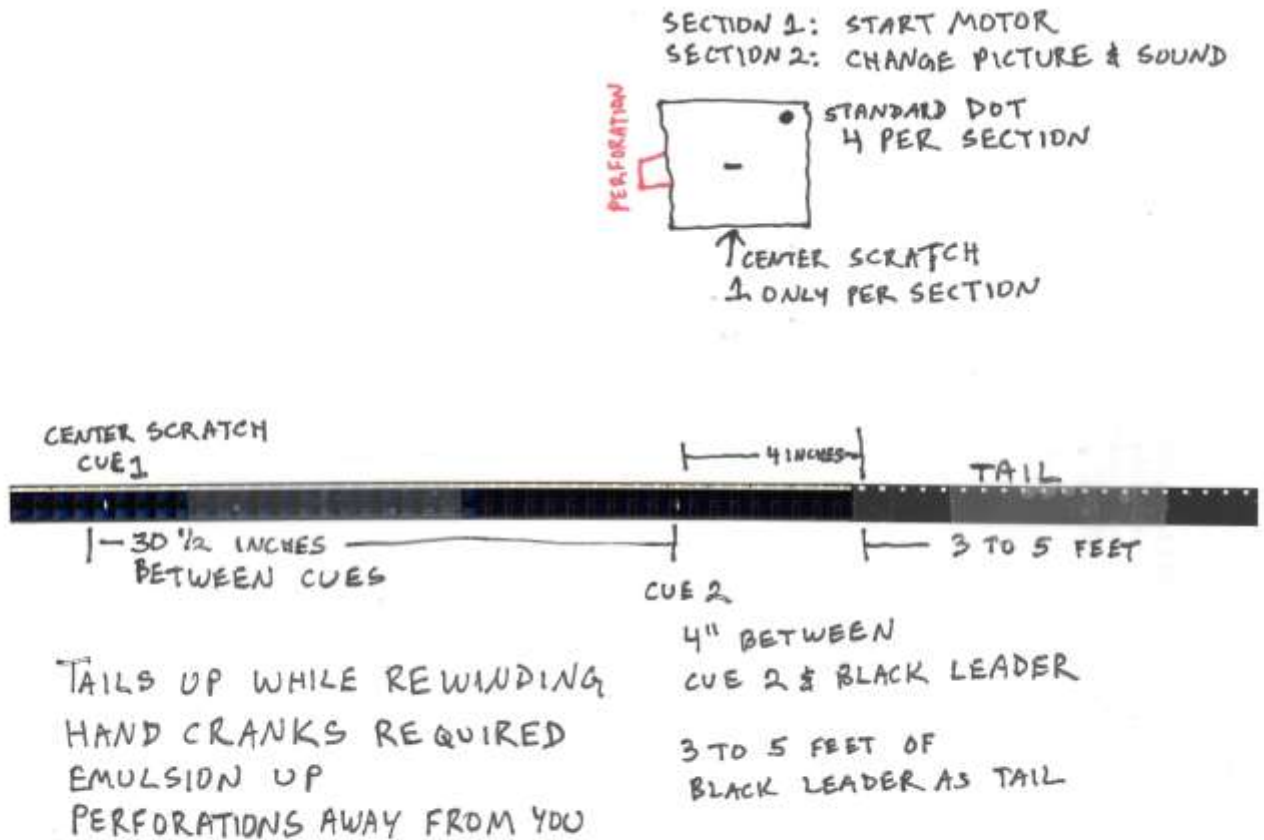


RED OR WHITE LINE  
 STOP AUTOLoad WHEN  
 IN THE TOP PICTURE LOOP  
 THIS GIVES 6 SECONDS  
 TO SOUND HEAD COMBINED WITH CUES & BLACK TAIL  
 GIVES ULTRA SMOOTH TRANSITIONS

Writers note: Upon scanning to a computer file, the Kodak white leader pasted to the paper above became hard to see. But it was there, we promise.

In the above picture we are prepping the leader or countdowns. The white line as shown will be stopped during auto load in the top loop of the projector. Or – just inside the top sprocket.

Continue to the next picture:



Samples cues on above film have been downsized to fit on this page.  
The written distance measurements are the ones to use.  
Combined with white/red lines on leader allows perfect transitions between  
projectors once you practice and get the concept down.

Here we show how the cues are placed in the print. The standard dot in the upper right corner is not used and is shown here as history of the cue mark for theaters years ago when changeover was king.

Note the cue mark referred to as "center scratch." This is the cue mark that you will place on your prints. Each cue mark is a section. As described in this document....

**SECTION ONE CUE ONE START MOTOR**

**SECTION TWO CUE TWO STRIKE LAMP CHANGING PICTURE AND AT THE SAME TIME USE REMOTE CONTROL TO RECEIVER TO SWITCH AUDIO INPUT PROJECTOR 1 TO PROJECTOR 2 OR VICE VERSA.**

Continue to next picture:



*A China marker or also called a Grease pencil can be used to make the white lines on countdown leaders. Be certain to be marking between magnetic tracks with the sound tracks in the UP position. As the soundtracks face the lamp house in the top loop of the projector.*

*The splicer shown is Ciro Guillotine Super 8 M3 Special. Hard to find. But a most excellent splicer to get your hands on. Based on the 16 and 35mm versions for theaters. Estimated MSRP when new in 1989: \$650.00 USD*

*Continue to final picture....*



*As shown here, use a small eyeglass screw driver – Phillip’s tip – for making the center scratch to place a cue 1 or cue 2 in your print. Make certain to scratch on the emulsion side where the three color layers are. Work tails up rewinding the reel between hand cranks. Perforations are away from you and the sound stripes are down.*

*The splicer was used to hold the driver during photography. Make your scratch on a hard wooden surface securing the film tightly with your hands so it does not move while you make the mark.*

*Footnotes:*

*The original lab cues for theaters were in the upper right corner and were electronically encoded during developing.*

*Do not worry about the upper right corner of the super 8 print as this will be hard to place since frame lines and some ratios are not the same. It could end up on the frame line and you won’t see it.*

*Concentrate one frame per cue in the center of the frame. You can use the perforation as a guide to locate the center of the frame. And remember to stare at the middle of the screen, not the upper right corner when watching for the cues during those final 6 to 8 seconds of the reel.*

*Blink and you’ll miss it!*

*End of document*