

## CHAPTER 5

# Preparing the Film Cutting Room for Editing

## O V E R V I E W

You've got two reels of mag sound dailies on your bench and the film is on the way from the lab; how do you sync and organize them for editing? Read on! This chapter will show you how to log, sync, code, and break down your dailies so they're ready and waiting for editing.

### KEY ELEMENTS OF THE FILM CUTTING ROOM

*Question: What is green, heavy, and has four wheels of teethlike sprockets, but take it away and the film cutting room ceases to function?*

*Answer: The humble synchronizer.*

Aside from aiding in creating and keeping sound and picture in sync, the synchronizer, a.k.a. the sync block, is indispensable for measuring film and reading sound through a drop-down sound head.

#### A SYNCHRONIZER SYNCs AND DOES A WHOLE LOT MORE

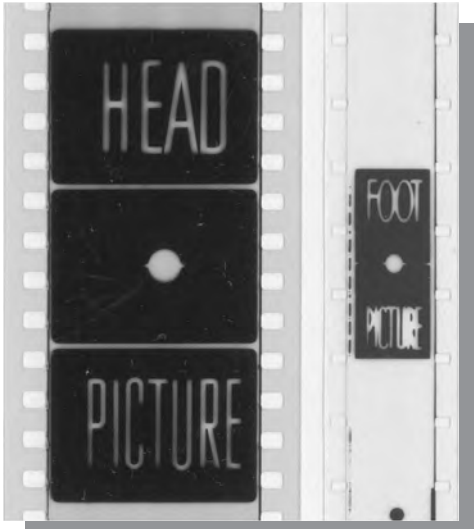
The synchronizer's four sprocketed wheels are called gangs. They run together or independently unless braked by the lock. The front gang is for picture; the other three gangs have sound heads and are for track. Rollers on the top of each gang clamp the film to the gang.

#### WHAT'S IN A FRAME?

16mm and 35mm are the common gauges (widths) of film. Figure 5b compares three frames of 35mm with three frames of 16mm.



*5.a. Synchronizer zeroed out; two sound heads up, one down.*

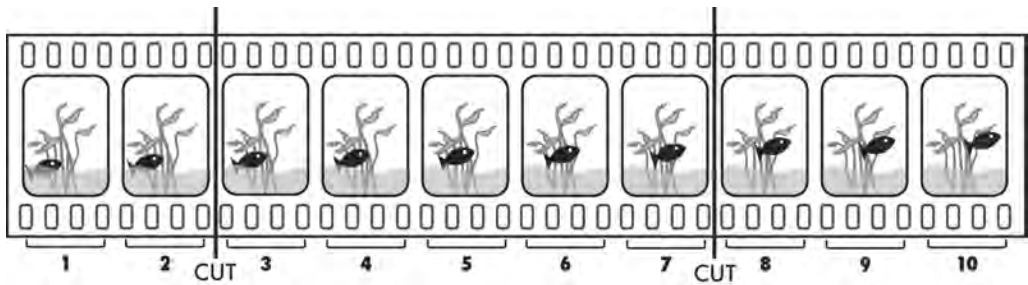


5.b. Three 35mm frames vs. three 16mm frames.

Notice that 35mm has four perfs (perforations or sprocket holes) per frame and 16 has one perf.

**A FRAME IN A SYNCHRONIZER**

See that in figure 5a the frame is on the 0 (zero) frame on the frame counter. The right side is referred to as the *inside* of the frame; the left side is the *outside* of the frame. Measuring from the inside of the 0 frame is called zeroing out your synchronizer. Normally you measure a piece of footage inside inside but you can also measure outside outside. Figure 5c illustrates how to measure and cut five frames.



5.c. Cutting five frames inside/inside.

You want to cut out frame 3 through frame 7. You would cut inside inside between frames 2 and 3 and frames 7 and 8 on your synchronizer. To make this clear when it needs to be written out for the lab, optical house, or others, it's written as 2/3 and 7/8.

**MEASURING ON THE SYNCHRONIZER, KEM, OR MOVIOLA'S COUNTER**

Table 5.1 helps you make sense of how film counters count.

TABLE 5.1  
MEASURING 16MM AND 35MM

FILM GAUGE	1 FOOT	FIRST AND LAST FRAME NUMBERS ON THE COUNTER	FRAME COUNTER MOVES FROM
16mm	40 frames	00 = first frame 39 = 40th frame	00 to 39 frames
35mm	16 frames	00 = first frame 15 = 16th frame	00 to 15 frames

The two film gauges both run at 24 fps but due to its smaller frame size, 16mm has more frames per foot. This works out to 36 feet per minute for 16mm and 90 feet per minute for 35mm.

There are times when you'll want to convert your show's length into time. Also, you may want to convert 16mm feet and frames to 35mm feet and frames (or vice versa). You can turn to Appendix E at the end of the chapter for a conversion chart. Feel free to photocopy it and stick it on the cutting room wall. All film measurements in this book are for 35mm unless specified, so please refer to Appendix E to convert them to 16mm.

### THE SOUND HEAD

Flip it up and look at it. There's a small, shiny strip about 1/2" long and 1/4" wide that reads the sound on your mag. It's crucial to keep this strip clean and de-magnetized so that your sound is clean and free of pops. Do not bring magnets of any kind into any editing room. Why? Because you can magnetize the sound heads on the synchronizer, Moviola, flatbed, or the splicer blade and this wipes out or damages your mag track.

#### *Degausser*

Over time a charge can build up on the sound heads. Before a show starts, it's wise to "de-mag the heads," i.e. de-magnetize the splicer and all the sound heads. To do this, use a degausser, which is a handheld de-mag tool. Degaussing is a routine procedure. Contact those responsible for maintaining your equipment and inquire if it's been done recently. Have them do it or show you how to do it. Be careful! Don't wave the degausser near the mag track or it will erase your sound! Periodically during a show, you may need to degauss — definitely if your splices start making popping sounds.

A table model degausser is used to erase audio from reels of mag film or tape so they can be reused.

### THE SOUND READER

The sound head on the synchronizer reads the sound and the sound reader amplifies it. Sporting the same green color as the Moviola and the synchronizer, the sound reader has a low-end speaker from which it earns its common name, "squawk box."



*S.d. Modern squawk box and speaker with synchronizer.*



*5.e. Zeroed out at the start mark with Moviola rolls on the rack. Loupe is to right of cores on bottom rack..*

### **WORKING WITH SYNCHRONIZER, SQUAWK BOX, AND REEL TAKE-UPS**

Always work from left to right through a synchronizer. Put your picture and sound reels on the left take-up (spindle arm), thread the synchronizer from the left, and cut and splice on the left. Take up the film on an empty reel to the right take-up. When you're finished with a reel or reels, pop open the gang(s) and rewind right to the left. Working and cutting to the left of the synchronizer is the way to keep reels in sync and becomes a habit.

### **THE CODEBOOK**

The codebook is the Bible, the Torah, the Koran — THE GUIDEBOOK — on which the entire film cutting room depends. It is made up of computer-printed forms that are filled in daily by hand or on the computer, or it may take the form of a database program like FileMaker Pro and live on the computer.

The codebook contains the data to find every piece of footage that was shot. Before assembling the footage for cutting, every take must be completely entered into the codebook. The codebook contains the following information:

**Leslie Marrs' Yankee Cowgirl Code Sheet** 012 1000

Scene	Code #	Key #	Lab Roll	Camera Roll	Sound Roll	Description
12-2	1003-1042	KU25 1179 1271-1310	D929 118	A-7		GROUP PAN → DOORS
12-4	1043-1081	KU25 1179 1353-1391	D929 118	A-7		GROUP PAN → DOORS
12A-1	1082-1098	KU37 3404 0621-0637	D929 121	B-2	MOS	Camille at window
12A-2	1099-1115	KU37 3404 0638-0655	D929 121	B-2	MOS	Camille at window
12A-2	1116-1181	KU25 1179 1408-1472	D929 118	A-7		
12A-3	1182-1277	KU25 1179 1473-1568	D929 118	A-7		
12A-4	1278-1368	KU25 1178 1629-1719	D929 118	A-8		
12A-5	1370-1445	KU25 1178 1720-1796	D929 118	A-8		
12C-1	1446-1684	KU39 3294 1383-1621	D929 119	A-9		

5.f. A page out of the codebook with ink code and key code columns.

- Scene and take
- Date footage shot
- Lab roll
- Camera roll
- Key code
- Ink code
- Sound roll number
- SMPTE (time code) for sound (optional)
- Brief description of the shot
- Comments

### KEEPING THE CODEBOOK

Before syncing, log in everything described above. Most importantly, log the key code number at the beginning and end of each shot. Key code data is crucial not only for the negative cutter but also for the editor. During editing you will need a take's key code to order reprints and opticals, both of which are created from the negative. Lastly, everyone in the cutting room should know where the codebook is and have access to it. Keep it up-to-date and in one place!

## BEFORE DAILIES ARRIVE

Before diving into dailies, there are few bits of knowledge that you need regarding winding and splicing film.

### BASE AND EMULSION

Put the picture between your lips and give it a quick firm kiss. It won't kiss back but it will tell you the difference between the emulsion (top) side of the picture and the base (bottom) side. Your lips will stick to the emulsion side and come right off the base side. Sound ridiculous? Editors do it every day when they can't tell by eyeballing.

The emulsion is the dull, lip-sticking side where the picture image is printed. Scratch it and you scratch your picture, so don't do it! The base side of the film is the shiny, lips-slide-off side. It's a thin plastic backing on the pix that from days of yore has been referred to as the cel side.

Base and emulsion are easy to tell apart on the mag sound. The base side is shiny. The emulsion side is dull brown. Since it contains the sound, it's threaded facing the sound head to be read and heard. If treated harshly, mag emulsion can wear off, clogging the sound head and rendering your sound unusable, so treat it well.

### A-WIND AND B-WIND: HOW PIX AND TRACK COME OFF A REEL

When you wind film, you see either the base or emulsion side. Emulsion up (or out) means you're seeing the dull emulsion side. Base up (or out) means you're seeing the shiny base side.

A-wind and B-wind refer to which side reads correctly — base or emulsion — when you wind the film. A-wind is also referred to as KEM wind or mag down and B-wind as Moviola wind or mag up. To figure out whether the film is A-wind or B-wind, hold the piece of film with the emulsion side up. If it's A-wind, you will be able to read the image and the numbers; if it's B-wind, you will see a mirror image. Table 5.2 fills you in how winds work and when they're used.

TABLE 5.2  
A-WIND AND B-WIND

WIND	HOW IT WINDS	WHAT WINDS THIS WAY
A	Looking through the emulsion side, images and numbers can be read.	<ul style="list-style-type: none"> <li>• Dailies (positive print 16mm &amp; 35mm)</li> <li>• Shows editing on KEMs &amp; other flatbeds</li> <li>• 16mm pre-release reels for projection</li> <li>• 35mm release print</li> </ul>
B	Looking through the base side, images and numbers can be read correctly.	<ul style="list-style-type: none"> <li>• All OCN (original camera negative)</li> <li>• Shows editing on Moviolas</li> <li>• 16mm release print</li> <li>• 35mm pre-release reels for projection</li> </ul>



**WHAT YOU WIND ONTO: CORES AND REELS**

You wind your film onto one of the following:

Core. The center of all KEM reels.

Flange. For winding up Moviola rolls or KEM reels.

Reel, a.k.a. Goldberg (after its manufacturer). Holds 10 minutes of film. Used on Moviolas, KEMs, and to project dailies.

Split reel. The film is wound on a core placed between these two screwed-together reels for use on a KEM show.

**CUTTING AND SPLICING (SEE 5K)**

Inside the splicer's arm is a razor blade. To cut, move the splicer's arm down on the film with a quick decisive motion and you will hear a soon-to-become-familiar "chop chop" sound.

It takes a little practice and dexterity to line up the sprockets of the splicing tape with the sprockets of the two pieces of film to be spliced. You want to make smooth, air-bubble-free splices. Once you get the hang of it — well, then it's time to re-cut and you get to peel off the tape, which is almost as much fun!

You splice picture with clear splice tape on the base side. On 35mm, splice two sprockets only, one on either side of the cut. White splicing tape is used to join mag sound, again on the base side. For 35mm, cover four sprockets, two on each side of the cut. In 16mm, all splices cover two frames.

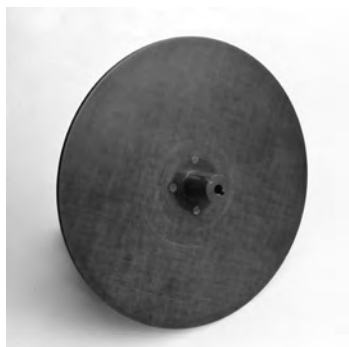
**PREPARE HEAD AND TAIL LEADERS FOR PIX AND SOUND REELS**

Leaders are spliced to the head and tail of every reel and KEM roll. A leader identifies the reel, allows it to be threaded on the KEM, Moviola, or projector, and sets a sync point via a start mark at the head of each reel.

Film leader comes in rolls from the lab. The lab deliberately exposes raw stock to light so it becomes lightstruck



*5.g. Cores (2" and 3").*



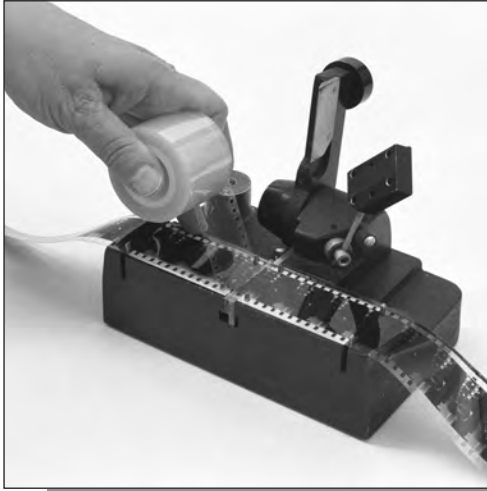
*5.h. Flange.*



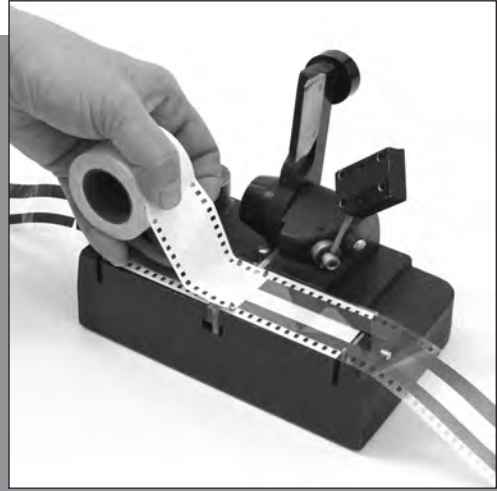
*5.i. Goldberg reel.*



*5.j. Two split reels with 3" cores.*



*5.k. Splicing pix with clear tape.*



*5.l. Splicing sound with white tape.*

and turns white. Leader is made from this opaque film and then referred to as *lightstruck leader*. You label leaders with markers called Sharpies: black for pix (picture) and red for trk (sound track). Sharpies are indelible and won't rub off the leaders, so watch it! They'll stain your fingers, clothes, and everything else. For this reason and because they dry out, cap them when not in use.

You always label picture leader on the emulsion side with a black Sharpie and track on the base side with a red Sharpie. On 16mm, you mark your label directly on the leader, which is single perf film. (Single perf film has sprocket holes on one side of the film; double perf sports holes on both sides.) Likewise, you label 35mm on the leader or on a piece of 3/4" white paper tape stuck to it.

### **MAKE A HEAD LEADER**

*Step 1: Label it*

Working from right to left, take the free end of the roll of leader or tape and lay it flat on your bench. Mark in CAPITAL letters as in figure 5n: head, pix or trk, daily reel #, date, scenes on the reel (optional), and the show name.



*5.m. China maker (grease pencil), Sharpies, and paper tape..*

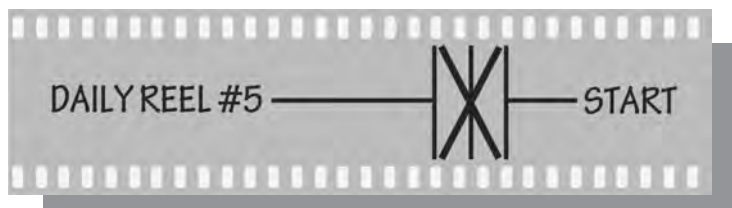


*5.n. Pix head leader.*



*Step 2: Add a start mark*

Place the labeled head of your leader in the synchronizer, zero it out, and measure 10 feet.



5.o. Start mark.

At 10'0, make a start mark on both your pix and trk leaders. To do this:

1. Make a line through each frame line.
2. Draw two diagonals so you have an X.  
Some editors like to punch a hole in the middle of the X with a single-hole paper punch.
3. To the right of the mark, write "start." To the left, write the daily reel #.  
Many editors draw a horizontal line to the right and left of the mark to make it easier to find.

The start mark, also called the *dead sync* mark, is critical for finding sync on daily reels and edited reels. How come? Should pix and track reels go out of sync, you can always line them up at the start mark and put them back into sync. Editors often put tail sync marks on reels for re-syncing when tails are closer.

*Step 3: Daily reels only*

Measure nine feet from the start mark. On the pix leader, mark the 9'0 frame with the words "sync pop." On the track leader, cut in one frame of sync pop. A sync pop, a.k.a. pop, is a beep tone<sup>1</sup> that you acquire from a roll of tones on a piece of mag from the lab. A pop is essential for keeping sync on a cut track reel for projecting. It's not always used on daily reels.

*Step 4*

Wind down on the synchronizer until you're at 12'0. Cut the leader and attach the head of the pix or track reel. On a daily reel, the sync pop will be nine feet after the start mark and three feet before the first frame of picture or track, called FFOA or FFOP (first frame of action/picture). The start mark should be exactly 12'0 from FFOA.

**TO MAKE A TAIL LEADER**

Place the head of a roll of leader in your synchronizer, zero it out after the label, and then:

1. Measure nine feet.  
Pix: Mark the 9'0 frame "Tail Sync Reel 1."  
Track: At 9'0 put in a sync pop or mark the frame "Tail Sync Reel 1."

<sup>1</sup> This 1000Hz tone is also recorded to videotape and input into digital systems.

The tail sync mark or pop should be 3'0 after LFOA, a.k.a. LFOP, (last frame of action/picture).

2. Wind down three feet to 12'0 and cut the leader.
3. Label it, from left to right: Tail, Pix or Trk, Daily reel #, Show name, as shown in figure 5p.
4. Attach the tail leader to the picture or track.



*S.p. Track tail leader.*

### FINAL NOTE

At the start of a show, make and mark up a bunch of leaders so you can grab them, add the reel #, and splice them to dailies.

## SLATES

There are several types of slates or stix, as they're commonly called. All slates identify the take and give other useful information as well as providing a picture and sound reference for syncing. You will encounter some or all of the following types of slates during your time in the cutting room.

### CLAPBOARD SLATE

These are the most common slates and supply the most information: director, scene and take number, date, production, production number, camera, camera roll (A, B, C, etc.), sound roll. The clap sticks come together for one frame, which is the sync frame — the frame you will use to sync picture and track.

### SMART SLATE

The time code slate, universally referred to as the smart slate, is an electronic clap stick widely used today. It generates time code and jam-syncs<sup>2</sup> it to the Nagra (or other audio recorder). This speeds up syncing tremendously. A smart slate displays time code on a red LED and can generate TOD (time of day) time code. TOD time code is useful to news reporters, editors, and others concerned with the precise time of an event.

### BLOOP SLATES

They earn their name from the bloop sound they make, which occurs simultaneously with a flash of light on the sync frame. Bloop slates provide no label or information and are for syncing purposes only.

<sup>2</sup> Jam sync means time code is synchronized (matched) and recorded on a tape or device with another tape or device via a time code generator.

**TAIL SLATES (TS)**

An upside-down clapboard indicates a tail slate is coming. A tail slate is used with children and animals, if the action has to be grabbed and there's no time to head-slate it, or when the head slate has been bypassed for one reason or another. Mark the slate as usual on pix and track and write "TS."

**CLOSED STIX = MOS TAKE**

An MOS (without sound) take is a picture-only take. Stix are closed and not clapped.

**SECOND SLATE, A.K.A. DOUBLE STIX = TWICE-CLAPPED SLATE**

When the camera crew realizes that the first clapped slate was not in frame or that sound was not up to speed when it was clapped, they remedy this by clapping the slate a second time. You may hear a crewmember yell "second stix" on your track and/or see two fingers held up on your picture. Use the second stix for syncing but label all slates on pix and track or you may sync up the wrong pair of slates.

**IMPROMPTU SLATES**

I've synced dailies to hand claps, an ax chopping wood, and drumsticks, among other improvised slates. Better than nothing and fun for the crew perhaps, but often a time-consuming puzzle for editorial.

**NO SLATES**

No excuse. No three strikes. You're out of the industry. Forever. Sigh. . . . I wish. If only you had to sync your own dailies . . .

**HOW TO SYNC WITHOUT SLATES**

Syncing without slates is always a challenge but satisfying once accomplished. If you're close but still flummoxed finding sync, retard the sound, one frame at a time, until you're in sync. Always check your work on a KEM or Moviola.

*Non-slated dialogue*

If there is no clapped slate on a dialogue take, you will need to lip-sync it. Start by marking the same frame on picture and track where the speaker's lips make a hard sound like the letter P, K, or B at the beginning of a word. Then sync pix and track using these two marked frames. Last, play the synced take and adjust it until it's in dead sync. This method also works when sound recording problems cause sync to drift in and out during a take (which may or may not have been slated). Drifting sync ordinarily requires you to sync the take in several places to maintain sync throughout the take.

*Non-slated, non-dialogue footage*

Sync these takes by using a door close, footsteps, or any other short, distinct sound and picture action.

## PREPPING REELS FOR SYNCING

At last they're here! Usually the mag track arrives from the lab an hour or two before the pix. So it's common to first "pop the tracks," meaning mark the slates on the sound dailies so they're ready for syncing.

### MARKING REELS

This is what the grease pencil, a.k.a. China marker, was created for, as far as editors are concerned. You grease-pencil (yes, it's a verb and a noun) sync marks and other types of sound and pix reference points in the film. It leaves a clear mark that is removable at any time but clogs the sound head, making it hard to hear, if used on the bottom third of the track.

### PREPPING TRACK FOR SYNCING

You always receive more lab rolls of track than picture since on the set sound rolls first in order to get up to speed. This means that when you sync, you will cut out excess, useless track on every take. Keep this track in your trim bin until you're done syncing and have checked each reel; if you've made a mistake and accidentally cut out the good track, you can splice it in. Once all takes are in dead sync, then you can throw the excess track away.

### STRIPES ON MY SOUND REEL: WHAT ARE THEY?

#### *Two brown stripes*

*Two-stripe*, as it's called, is what you'll get every day for sound dailies on a 35mm show. The thick stripe is the mag (magnetic) sound track. The thin stripe, called the balance stripe, keeps the track building up evenly as you wind it on a reel.

#### *Three brown stripes*

*Three-stripe* has become more common today due to time coded Nagras being used for sound recording on the set and sound editors cutting on digital audio systems. The additional middle stripe carries the time code stripe.

#### *No stripes: My track is all brown*

Fullcoat is sound track where the entire surface is covered with brown, magnetic particles. 16mm track is always fullcoat. 35mm fullcoat is not seen in the cutting room unless you're doing a re-cut or a cut down of a previously cut movie. 35mm fullcoat's main job is to hold the final mixed track.

### HOW TO POP TRACKS: PREPPING YOUR SOUND REEL FOR SYNCING

The lab should send a list with each mag reel of what sound takes are on it. Cross-check this list with your sound report (which you've already cross-checked with camera and the script supervisor's one-liner, right?), and check each take off as you prepare it. If you don't get a

list from the lab, make your own list of the takes on each reel as you pop the track. This will come into play when you sync the track with the pix.

### PREPPING THE MAG TRACK

The mag reel invariably arrives tails out on a core. Carefully secure it in a split reel. There's a tendency to get casual with cored reels. This is a time to be wrapped tight. When a core drops out, it doesn't fit back in; you have to wind everything onto an empty split reel — a messy, film-unraveling, temper-unraveling chore.

With a black Sharpie, write "tails" at the end of the reel on the emulsion (dull) side and add the daily reel number if you know it. Wind to the head of the reel and write "heads" and the daily reel number. Put the reel on the left take-up and the mag in the first sound gang of the synchronizer. You're ready to pop track.



*5.g. Reel of mag as it arrives from the lab.*

### POPPING TRACK

Wind through to the head of the first take. Listen for verbal slate announcing the take so you're definite which take you're on. Next, listen for the clap of the slate sticks coming together. It's a loud, unmistakable sound. You can scrub (run the mag back and forth on the sound head) to hear it and find the precise frame.

Mark the clap frame with a line on each frame line: one sprocket on 16mm, four sprockets on 35mm.<sup>3</sup> Then write the take name and check the take off on your sound log or list. Congrats! You've popped your first track.

Continue popping and marking each slate. When you reach the tail of the reel, rewind so you're at heads. Do not attach any leaders because picture will determine what takes are on each daily reel and you will add your sound reel leaders during syncing. Once you're adept at popping track, you can mark from the tail of the reel so that when you reach the head, you're done.

### WILD TRACK

The sound recordist took the time to get it, so it's important to keep track of it. Any non-sync sound should be labeled and put on a separate reel. It will not be screened but will be logged, coded, and prepped for the editor like other dailies. Make a copy of the log, as the sound editors will need it.

<sup>3</sup> Alternatively, you can mark the inside of the clap frame with a line and draw a "tail" (a perpendicular line) from the middle of it for a few frames toward the tail of the roll.

## PREPPING PICTURE FOR SYNCING

Like the mag track, the picture reels usually show up tails out, accompanied by the lab report. After cross-checking the lab report with the camera report, add up the footages for scenes so that you end up with a daily reel or KEM roll that's 800-900 feet long. Why? Because you will be screening on projection reels that hold 10 minutes' worth of film (900 feet in 35mm/396 feet in 16mm). Also, you or your director may wish to screen dailies in a certain order, e.g. all the masters of a scene followed by the coverage from wide shots to close-ups. This will take a little more time, so plan ahead and organize your takes and rolls accordingly.

Check off each take on the lab or camera report as you work to make sure you have all the takes. To start prepping the pix, just as with popping track, you can rewind the reel to the head. Or, if you feel confident, you can work from the tail. We'll work from the tail this time. Here are the five steps:

### STEP 1: CUT OFF TAIL FROM AFTER THE FLASH FRAME

Put the tail of the reel in the first gang of the synchronizer. Locate the flash frame: It's the clear, white frame at the end of the take where light entered the camera when it stopped between takes.

Make a cut mark (straight line) on the outside frame line of the flash. Using your cut mark, cut off all the footage after the flash frame through the end of the reel. Always leave the flash frame in. This way you're certain that you've kept all the usable picture frames from the take.

### STEP 2: SPLICE TAIL LEADER

Splice on your tail leader, being sure to add in the daily reel number. Wind the leader onto the empty take-up reel on the right.

### STEP 3: MARK THE SLATE

Wind toward the head of the reel until you reach the slate. Mark an X on the first frame where the clap sticks are closed. Grease-pencil in the take's name, e.g. 17-1, and check it off on your camera log or notepad.

### STEP 4: CUT OFF EXCESS TRACK, HANG IT ON A PIN IN THE TRIM BIN, AND SPLICE ON THE TRACK LEADER

Roll to the flash frame at the tail of the next take. Mark a line across the end frame line and FF on the frame itself. Roll to the slate of the next take, e.g. 17-2. Cut off the sound at this mark. Hang the leftover track on a pin in the trim bin so you can retrieve it later if you cut off the wrong track. (More on the trim bin in Chapter 9.)



*S.x. Flash frame is the light frame on the bottom.*



**STEP 5: ADD HEAD LEADER**

Repeat Steps 2-4 until you're done with all the takes and are at head of the reel. At heads, attach the head leader and don't forget to write in the daily reel number. Hooray! You're done prepping your first pix reel. Now prep the rest of your picture reels and you'll be ready to sync.

**SYNCING**

Now that you've marked all your reels of picture and track and they're heads out, it's time to sync!

**THREADING UP A REEL ON THE BENCH**

First, put the pix reel on the spindle. Next, put in a core, a differential, or some type of spacer if you'd like to separate reels and make them easier to wind. Add the sound reel next. Lastly, slip on a spring clamp. It keeps your reels from sliding off during a fast rewind. You will learn quickly how to adjust the clamp so that it's neither too loose nor too tight.

To sync and prepare dailies you'll need two empty reels on the right take-up spindle. Paper-tape (yes, it's also a verb and a noun) your pix leader and sound reel to the inner and outer take-up reels.

**SYNCING THE FIRST TAKE**

*Step 1: Zero out at the start mark*

Place the pix start mark in the synchronizer and zero it out. This is known as "zeroing out at the start mark."

*Step 2: Find the pix slate*

Wind down to the first slate on pix; it's 17-1. Lock the synchronizer.

*Step 3: Find the sound slate*

Pull sound by hand off the reel until you reach the slate frame marked 17-1.

Put this frame in the second gang. Now pix and sound slates are lined up in the synchronizer.

*Step 4: Cut off excess track and splice on the track leader*

Unlock the synchronizer and wind back to the head. Stop at the splice between the first frame of pix and the leader. Make a cut mark at this splice frame on the sound reel. To the right of the synchronizer cut off the sound at this mark.

Splice on the track leader. Tape the leader to the empty reel on the right and wind it up.

*Step 5 Check the take's sync*

Check sync on 17-1. Watch it on the picture viewer and listen to it on the squawk box. Dialogue and/or action should be in sync.

### SYNCING THE SECOND TAKE AND ALL OTHER TAKES

#### *Step 1: Mark the track at the pix slate*

Wind to the pix slate of the take you're syncing; now it's 17-2. Mark the sound reel with a line on the right. It should line up with the right-hand side of the pix slate mark.

#### *Step 2: Place the sound slate in the third gang*

From the left of the synchronizer, pull down the mag until you reach the marked 17-2 slate frame. Place the slate frame into the third gang; locking the synchronizer makes it easier. Pix and track 17-2 slate frames in gangs 1 and 3 should now be lined up with your line on the right on gang 2.

#### *Step 3: All are marked at the flash frame*

Wind back to the line you marked on the pix at the flash frame. Grease-pencil a line across the mag in both gangs. You should now have a line across all three gangs at the same place.

#### *Step 4: Cut out excess track*

Working from the left side of the synchronizer, take the mag out of gang 3. Cut out the mag between these two lines and splice it back together. Hang the cut-out mag on your trim bin.

#### *Step 5: Check sync on take*

Check the take from head to tail to make sure it's in sync. Repeat Steps 2-4 until you reach tails. At tails cut off the excess sound and attach the tail leader.

#### *Step 6: Check sync on reel*

Rewind both reels to heads, making sure they're in sync: The last frame of picture and sound should line up exactly; the start marks on the head leaders should line up exactly.

You say "synced" and I say "sunk." However you say it, you've done it. You've put your first reel in sync. You've synced it. You've sunk it! Now throw away all the extra film (mostly track) in the trim bin.

### DEALING WITH SPECIAL SYNCING CIRCUMSTANCES

#### *Blurry slate*

Sometimes the clapper closes between frames when the camera shoots, so that when you go to mark it, the clapper is blurred. This is a good time to use a loupe<sup>4</sup> and examine the frame closely.



*S.s. Syncing dailies: preparing to grease-pencil the track in two gangs. Spring clamp is at end of rewind in foreground.*

<sup>4</sup> A small, single-lens magnifying glass resembling a monocle, used to examine film frames.

**35mm.** Mark the closed-sticks frame at the head frame line with an X (not at the center of the frame as normal). This half frame compensates for the problem and gets you as in sync as possible.

**16mm.** Mark the closed-sticks frame normally with an X and sync as usual.

#### *Tail slate*

These entail a little more winding back and forth but are basically synced the same way as head slates.

#### *MOS take*

When you come to an MOS take, splice in sound fill on the sound reel to keep it in sync. Sound fill is recycled movie film<sup>5</sup> that comes on rolls from the lab and is called fill leader, or just plain “fill.”

As you wind through the MOS picture, the fill winds onto the sound reel for the length of the MOS take. When you reach the first frame of sync picture, cut off the fill, splice it to the sync sound, and return to syncing as usual.



*S.t. Sound fill.*

### **AFTER THE DAILY REELS ARE SYNCED: CHECKING SYNC AND SCREENING**

Check each reel on the Moviola or a flatbed like the Junior (the 4-plate KEM) to be certain each reel is in dead sync. A frame or even sprocket out and you're back on the bench, fixing the reel in the synchronizer. Perfect sync is a necessity for screening and coding, not to mention editing! Syncing is a science, not an art. You have to be frame-on in dead sync — no excuses. It is satisfying when a reel is perfectly marked and sunk. And it's fun to get fast and beat those deadlines.

After syncing, you will screen dailies with the director and crew (or other powers-that-be). Following the screening, if there are any sync or other problems, you will fix them. Then it's time to send the reels out for coding, the last major process before cutting.

<sup>5</sup> Fill has an optical track on the side and often a huge scratch down the middle, so it's readily distinguishable from work print and can't be pirated. Still, it's fun to look at frames and see if you recognize the actors or the movie. Picture fill (slug) is made of clear leader and used to keep picture in sync when shots or scenes are missing for one reason or another.

## CODING

When you edit, you will cut off the slate of each take. If there were no ink code, sync would be lost. Ink code provides a sync reference every foot (35mm) or half-foot (16mm) on the edge of picture and track.

### INK CODE'S ROLE IN THE CUTTING ROOM

Ink code is vital to the cutting room for:

- Logging footage in the codebook.
- Locating footage on the racks.
- Keeping sync during editing.
- Reconstituting dailies (filing trims in either a Moviola roll or KEM roll).
- Conforming the daily work print to the digital cut.

### THE INK CODE PROCESS

You send out the reels to a coding house to be coded or rent a coding machine and do it yourself. Each pair of pix and sound reels, e.g. Daily Reel 1 Pix and Daily Reel 1 Trk, is coded identically in two separate passes with a unique code. Ink codes are inked on by a coding machine or, more commonly today, applied by thermal tape on an Acmade coding machine. Hence, ink codes are also called Acmade code, edge code, rubber numbers, or Moy (British term).

### HOW TO CODE REELS

- DO code all reels: synced pix and track reels, wild track, MOS reels, music reels, etc. You can identify different kinds of reels with letters (more below).
- DON'T repeat any code numbers. Use unique numbers for each reel or pair of reels.
- DO code on the base side.
- DON'T code on the emulsion side or your code will flake off all over your sound head and clog it.
- DO be sure your reels are in dead sync. If the reels are out of sync, the code numbers will be out of sync. It is a frustrating waste of time, money, and energy to fix. To fix an out-of-sync reel, black out the numbers with a Sharpie — yeah, for the whole reel — and recode it.
- DO spot code, i.e. code individual takes, not an entire reel. For instance, you spot code music for musical numbers. Also you'd reprint and spot code a take chewed up in the Moviola to match the original take.

### HOW TO CODE REELS: NUMBERING SYSTEMS

Code numbering always contains four numbers and starts at the start mark on the head leader. Put a piece of paper tape right before the start mark with the starting code you want for that reel.

Since each reel is 1,000 feet or less, numbering starts at 1000 on the first reel, 2000 on the second, 3000 on the third, and so on. After you reach 9999 on the ninth reel, you must add a letter. There are two principal numbering systems: six numbers and eight numbers.

#### *Six-number code*

This system is used on 16mm shows but is less popular than the eight-number system. Don't use EE and FF or VV and WW because these pairs look too much alike and cause confusion. Here's how it works:

Six-number code	Type of Roll
AA1000 to AA9000	Daily roll #1-9
AA0000	Daily roll #10
BB1000 to BB0000	Daily roll #11-20
CC1000 to CC0000, etc.	Daily roll #21-30
or	
AA1000 to AA0000	Daily roll #1-10
AB1000 to AB0000	Daily roll #11-20
AC1000 to AC0000, etc.	Daily roll #21-30
BB1000 to BB9000	Wild Track
CC1000 to CC9000	Reshoots

#### *Eight-number code*

This system is more popular and is used on most 35mm shows and many 16mm shows.

Eight-number code	Scene and Reel
001 1000	Scene 1, Reel 1
002 1000	Scene 2, Reel 1
003 1000	Scene 3, Reel 1

So this is the scheme:

001 1000 to 001 9000	Scene 1, Reels 1-9
001 0000	Scene 1, Reel 10

It's rare to have more than 10 reels for a scene but if you do:

001A0000	Scene 1, Reel 11
001B0000	Scene 1, Reel 12, etc.

Some folks add letters to help ID reels:

023A1000	Scene 23 "A" Camera
023B1000	Scene 23 "B" Camera
023C1000	Scene 23 "C" Camera, etc.
or	

010M1000  
 020W1000  
 030E1000  
 007P1000  
 007P2000

Scene 10 Music  
 Scene 20 Wild Track  
 Scene 30 Effects  
 Reel 7 Preview Reel 1  
 Reel 7 Preview Reel 2, etc.

### CHECK CODING

When the reels return from coding, throw each pair of coded reels on the flatbed or run them through the synchronizer to check the coding and sync. As you do this, enter the ink code for the beginning and end of each shot into the codebook.

## AFTER SYNCING, CODING, AND SCREENING BREAKING DOWN AND STORING THE FOOTAGE

The type of film machine used for editing — Moviola or KEM — then determines how the show will be organized.

Your daily reels have been synced, coded, and logged: It's time to prepare them for editing on the Moviola or the KEM.

### BREAKING DOWN ON A MOVIOLA SHOW

On a Moviola show you break down the coded reels into individual takes for editing. To begin, put a pair of reels up on your bench to the left of the synchronizer, tails out. Place the reels in sync using the ink code or FFOA. Remove the tail leaders. (You can discard them or tape over the old information and reuse them.)

Wind the take snugly onto a flange — tight enough to hold it together but not so tight that the film is stretched. Cut pix and track at the same place using the line you made at the end the flash frame of the next take on the reel. Hooray! You've just made your first Moviola roll! Now label it!

Start labeling by putting a rubber band around the roll to keep it together. Next, write up a trim tab with the roll's start and end ink code, scene and take number, and a brief shot description. Insert the trim tab into the roll. Some people don't bother with trim tabs and simply write the name of the take and the shot description on the piece of paper tape that



*S.u. Flanging Moviola roll from coded daily reels.*



holds the roll together — dicey if the tape is lost.

### BREAKING DOWN ON A KEM SHOW

You don't whisk takes in and out of a flatbed to edit like you do Moviola rolls. Instead, you zip through reels wound around cores that are called KEM rolls. On a documentary show your daily reel becomes your KEM roll. So after the reels are screened and coded, thread them on the flatbed to check sync and log the codes and start editing.

On a scripted show, for screening dailies it's best to make up daily reels that have whole scenes together. Before coding the screened reels, you'll reorganize them into KEM rolls based on the way they will be cut. This requires experience, which you'll get as you go along and will customize for each show. The following section gives you guidelines to get started.

Keep the master shots on one roll and the coverage on another so you can have them both on the KEM and cut between them. For example, on a scene with Mo, Larry, and Curly, you will be intercutting between them, so you would make a Mo KEM roll, a Larry KEM roll, and a Curly KEM roll. A fourth KEM roll would contain the master, POV, insert, and two-shots. In addition, for this comic scene, you'd probably have a roll of thumps and thuds and other special sound effects.

### TRIM BOXES: STORING MOVIOLA ROLLS AND KEM ROLLS

At last you've got all the footage broken down for editing. Now it's time to store it until it's needed for cutting. To do this, prepare a bunch of trim boxes to hold the Moviola and KEM rolls. Label the contents of a trim box by writing the



5.v. Moviola roll and trim tab.



5.w. Labeled trim boxes and empty Goldbergs on a rack. Can you spy the lone split reel?



scene and take, ink code (start and end), and show name on a piece of white paper tape. Stick the tape to the outside of the box so it can be read vertically — like a book — on the rack.

On a Moviola show, fill the trim box with as many Moviola rolls as will fit. On a flatbed show, one trim box will hold a pair of 16mm daily reels. Two trim boxes are required on a 35mm show: one box for pix, one box for track.

## CHAPTER WRAP-UP

Congratulations! You've synced, coded, logged, and organized your film for editing. You're ready to cut! You can read Appendix F to see how to make a budget for Stage I. Or you can jump to the next chapter and Stage II: Editing!

# APPENDIX C

## SHOW SCHEDULE

SCHEDULE		SHOW	DATE	PAGE OF
#	Event	Days	Dates	
1	Shoot days			
2	First cut			
3	Director's cut			
4	Producer or client cut			
5	Temp online			
6	Temp dub			
7	Final cut approval			
8	Preview screening			
9	Opticals, effects, inserts, and film titles			
10	Picture lock (days from first cut)			
11	Online			
12	Color correction and titling			
13	Spotting MX and SFX			
14	ADR			
15	Foley			
16	Scoring stage			
17	Pre-mix			
18	Mix			
19	Negative cut			
20	Answer print			
21	Conversion			
22	DVD authoring			
23	Web streaming			
24	Delivery date			



# APPENDIX E

## FILM FOOTAGE CONVERSION CHART

CONVERT FILM FOOTAGE TO TIME										
16MM FEET	35MM FEET	MIN		16MM FEET	35MM FEET	HOURS + MIN		16MM FEET	35MM FEET	HOURS + MIN
36	90	1		1656	4140	46		3276	8190	1:31
72	180	2		1692	4230	47		3312	8280	1:32
108	270	3		1728	4320	48		3348	8370	1:33
144	360	4		1764	4410	49		3384	8460	1:34
180	450	5		1800	4500	50		3420	8550	1:35
216	540	6		1836	4590	51		3456	8640	1:36
252	630	7		1872	4680	52		3492	8730	1:37
288	720	8		1908	4570	53		3528	8820	1:38
324	810	9		1944	4860	54		3564	8910	1:39
360	900	10		1980	4950	55		3600	9000	1:40
396	990	11		2016	5040	56		3636	9090	1:41
432	1080	12		2052	5130	57		3672	9180	1:42
468	1170	13		2088	5220	58		3708	9270	1:43
504	1260	14		2124	5310	59		3744	9360	1:44
540	1350	15		2160	5400	60		3780	9450	1:45
576	1440	16		2196	5490	1:01		3816	9540	1:46
612	1530	17		2232	5580	1:02		3852	9630	1:47
648	1620	18		2268	5670	1:03		3888	9720	1:48
684	1710	19		2304	5760	1:04		3924	9810	1:49
720	1800	20		2340	5850	1:05		3960	9900	1:50
756	1890	21		2376	5940	1:06		3996	9990	1:51
792	1980	22		2412	6030	1:07		4032	10080	1:52
828	2071	23		2448	6120	1:08		4068	10170	1:53
864	2160	24		2484	6210	1:09		4104	10260	1:54
900	2250	25		2520	6300	1:10		4140	10350	1:55
936	2340	26		2556	6390	1:11		4176	10440	1:56
972	2430	27		2592	6480	1:12		4212	10530	1:57
1008	2520	28		2628	6570	1:13		4248	10620	1:58
1044	2610	29		2664	6660	1:14		4284	10710	1:59
1080	2700	30		2700	6750	1:15		4320	10800	2:00
1116	2790	31		2736	6840	1:16		4356	10890	2:01
1152	2880	32		2772	6930	1:17		4392	10980	2:02
1188	2970	33		2808	7020	1:18		4428	11070	2:03
1224	3060	34		2844	7110	1:19		4464	11160	2:04
1260	3150	35		2880	7200	1:20		4500	11250	2:05
1296	3240	36		2916	7290	1:21		4536	11340	2:06
1332	3330	37		2952	7380	1:22		4572	11430	2:07
1368	3420	38		2988	7470	1:23		4608	11520	2:08
1404	3510	39		3024	7560	1:24		4644	11610	2:09
1440	3600	40		3060	7650	1:25		4680	11700	2:10
1476	3690	41		3096	7740	1:26		4716	11790	2:11
1512	3780	42		3132	7830	1:27		4752	11880	2:12
1548	3870	43		3168	7920	1:28		4788	11970	2:13
1584	3960	44		3204	8010	1:29		4824	12060	2:14
1620	4050	45		3240	8100	1:30		4860	12150	2:15



# APPENDIX F

## STAGE ONE: BUDGET FOR DAILIES

Now that you understand how to set up your project and prepare dailies, you can budget for this stage of postproduction.

### BEFORE BEGINNING A BUDGET

- Know your schedule and how much it could possibly change or be extended.
- Have an accurate list of what you need to deliver.
  - ⇒ Know which tape format is contractually due to the network.
  - ⇒ Know the film and/or tape requirements of the distributor and exhibitor.
  - ⇒ Know the disk or file requirements for the DVD or Web file.

### WHEN MAKING A BUDGET

- Get bids on everything.  
Meet with vendors and post facilities to determine which deals and services best suit your project's needs and budget.
- Understand what you're paying for.  
If you don't understand something, ask questions until you do.
- Be generous with your estimates.  
"Anything that can go over budget will go over budget" could be the subtitle of many movies.
- Keep tidy records.  
Save invoices for seven years because that is the "look back" period for which you can be audited.



BUDGET FOR DAILIES						
ACCT #	DESCRIPTION	AMOUNT	UNITS	X	RATE	TOTAL
2000	<b>Film Editing Personnel</b>					
2001	Film editor		week			
2002	Asst. film editor		week			
2003	Apprentice editor		week			
2004	Post supervisor		week			
2005	Editorial runner (PA)		week			
2006	Shipping/messengers		allow			
			<b>Total for category</b>			
2100	<b>Room and Equipment</b>					
2102	Digital system rental		week			
2103	Tape deck rental system rental		week			
2104	UPS rental		week			
2105	Other peripherals rental		week			
2106	Moviola rental		week			
2107	Flatbed rental		week			
2108	Equipment purchase		allow			
2109	Editing room rental		week			
2110	Giga/terabytes storage		week			
2111	Supplies and expenses		allow			
			<b>Total for category</b>			
2200	<b>Picture Dailies</b>					
2201	A-cam		feet			
2202	B-cam		feet			
2203	Steadicam		feet			
2204	Other cameras		feet			
			<b>Total for category</b>			
2215	<b>Film Dailies</b>					
2216	Develop negative		feet			
2217	Print dailies (work print)		feet			
2218	Coding (ink code)		feet			
2219	Sound mag stock		tape			
2220	DAT stock		tape			
			<b>Total for category</b>			
2220	<b>Telecine Dailies</b>					
2221	Negative		hour			
2222	Positive (work print)		hour			
2223	Syncing negative		hour			
2224	Flex files		disk			
			<b>Total for category</b>			

BUDGET FOR DAILIES						
ACCT #	DESCRIPTION	AMOUNT	UNITS	X	RATE	TOTAL
2230	<b>Videotape Dailies</b>					
2231	Transfer: HD tapes to SD daily tapes		hour			
2232	Daily editing tapes		tape			
2233	1/2" viewing tapes		tape			
2234	Tape stock — SD		tape			
2235	Tape stock — HD		tape			
			<b>Total for category</b>			
2240	<b>Sound Dailies</b>					
2241	Sound dailies transfer		feet			
2242	Mag film stock		feet			
			<b>Total for category</b>			
2300	Dailies Screening					
2301	Projectionist		hour			
2302	Screening room		hour			
			<b>Total for category</b>			
2400	<b>Transcripts of interviews</b>		hour			
			<b>Total for category</b>			
2500	<b>Misc. Expenses</b>					
	Parking fees, food and water, fax, telephone, photocopy, coffee, etc.		allow			
			<b>GRAND TOTAL</b>			

<sup>1</sup>Account numbers shown are sample numbers, not established accounting numbers. All categories will not apply to your project. Use these blank forms to budget your own show. You can enter this form into Excel or another spreadsheet program to perform the calculations. You can also make up your own form or purchase a program — such as DISC System, MacToolkit Budget, or Movie Magic — that professionals use to budget shows.