VIDEO TOOLS AND TIPS

TECHNIQUES FOR MAKING CLEAN EDITS

There are several different approaches currently popular for making precise, clean edits with half-inch and one-inch helical scan videotape equipment. In each method it is necessary to roll back the tape on both the playback and record decks an equal amount from the point where you choose to make your edit so that when both machines are started simultaneously the record deck has sufficient time to synchronize with the control track of the playback deck before the selected edit point is reached. It takes a few seconds for the record deck to match its speed exactly to the playback deck, and capstan servo editing depends on 1) identical speeds, and 2) control track pulse synchronization. Both tapes must be rolling for at least eight seconds in order to lock up properly.

The following methods are examples for achieving accurate *manual* backspacing:

(Contact Videographe, 1604 Saint Denis, Montreal, 129, Quebec, Canada, for information on their *automatic* backspacing device. Also, look forward to another editing aid which Morty Schiff of Woodstock Community Video is devising by building a control track counter which can count an equal number of control track pulses on both record and playback decks in forward and reverse modes.)

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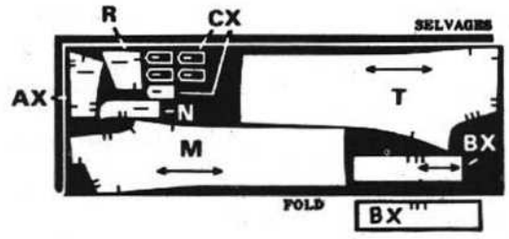
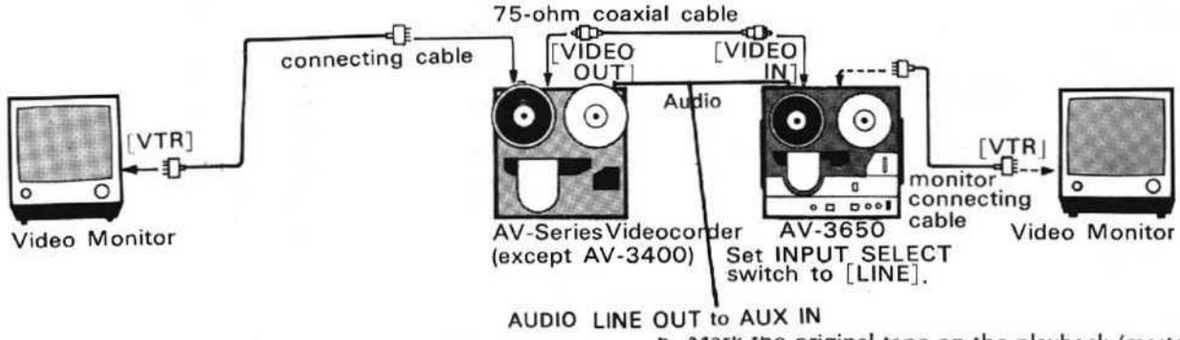
Terms:
playback deck=master deck=original pre-recorded tape material
record deck=slave deck=edit



#1—YELLOW GREASE PENCIL METHOD: Advice from Andy Mann

Having had hours of practice, I have had little trouble with the technical end of editing videotape. I am printing these instructions in hopes that you may be able to cut down your editing time and come to enjoy working with the equipment a bit more.



1. Hook up all equipment as shown.

2. Plug in A/C power cords.

3. Thread tape on record (slave) deck, being sure to leave about 30 seconds to leader.

4. Thread and play original tape on playback (master) deck. Check tracking, adjusting tracking control if necessary.

5. Mark the tape on the record (slave) deck. Turn off power before marking tape. Turn function lever to pause.
   (a) Mark an X on the tape over the erase head.
   (b) Make a timing mark on the tape over the audio head. (Each of the 4 timing marks should be a recognizable symbol. For instance 1= , 2= , 3= , 4= . When the first timing mark is over the erase head, the tape has been backed up 2 seconds.)
   (c) Make the second timing mark over the audio head, and wind back the timing mark back to the erase head. The tape has been wound back 4 seconds.
   (d) Make the third timing mark over the audio head and wind the tape back by hand until the 3rd timing mark is over the erase head. The tape has been backed up 6 seconds.
   (e) Make the fourth and final timing mark over the audio head and back up the tape until the mark is over the erase head. The tape has been wound back 8 seconds from the point (X) where the edit will be made.

6. Mark the original tape on the playback (master) deck. *Turn off power* before turning function lever to pause.
   (a) Make the first timing mark over the audio head and wind back the mark to the erase head.
   (b) Make 3 more timing marks over the audio head, and wind each mark back to the erase head as it is made. Both decks are now cued-up at a point on the tape where it is 8 seconds of rolling time prior to the point where the edit is to be made.

7. Both decks remain in pause/still position. *Turn on the power switches* on both decks.

8. When ready to make the edit:
   (a) Throw both decks into FORWARD at the same time.
   (b) Quickly hit the edit button on the record (slave) deck.
   (c) Focus attention on the running tape on the record (slave) deck. Put your finger on the record button.
   (d) When the X is directly over the erase head, hit down the record button HARD! The best edits are made with a sharp snap of the button.

9. At the end of the edit, turn the function switch to Pause —Still. This should cause the record button to pop up. If it doesn't pop up, then turn the function lever towards Fast Forward until the record button does pop up.

10. Rewind the record (slave) tape, and cut the power to the playback (master) deck.

11. Playback the record (slave) tape and check your edit. If it is good, erase all grease pencil marks.

12. Finally, set up the tapes and equipment for the next edit.

(a) Cue-up the end of the segment which has just been recorded on the record (slave) deck. Mark an "x" over the erase head.

(b) Cue-up the beginning of the next segment on the playback (master) deck.

(c) Repeat the entire editing operation starting with step #5.

NOTE:
In order for this method to function optimally grease marks must be erased after an edit is completed, OTHERWISE THE GREASE CAN CLOG HEADS AND PRODUCE TAPE PATH BUILD UP. Erase grease marks with soft rag.

Also, check each edit as you do it. About one in four will probably not be clean. If the edit is not clean hit the button a little sooner on the next attempt. When you check the edit, be sure the power is off on the playback deck, or the record deck will try to lock to the random noise generated by the playback deck.

#2—STOP-WATCH METHOD

1. With this method, as with the first, the new point of edit is selected for both the playback and record tapes.

2. Then an arbitrary cue point is selected (either a previous edit point, or a change of scene, or some distinct auditory or visual cue) 10 seconds or *more back* from the new edit point.

3. Once the arbitrary cue point has been selected for each tape, playback each tape starting the stop-watch at the arbitrary cue point and stopping it at the new edit point.

4. Using 10 seconds as the distance you want between cue point and edit point make the following adjustments:

(a) If the timing on one tape is 17 seconds between arbitrary cue and new edit point, you must playback and start the watch again at the same cue point as before but stopping in the pause position 7 seconds *after* the cue point and thus 10 seconds *before* the new edit point.

(b) If the other tape's cue point turned out to be 29 seconds *before* the new edit point, then you would start the tape at the arbitrary cue point and stop in the pause position *after* 19 seconds. Again leaving a 10 second space between this new cue point and the new edit point.

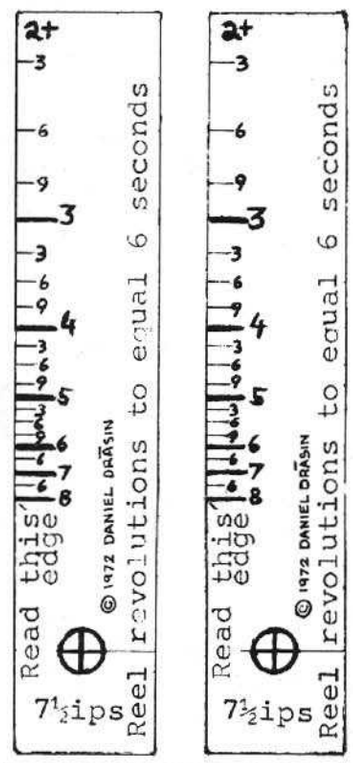
(c) If the arbitrary cue point is *less* than 10 seconds away from the new edit point you must select another point 10 or more seconds from the edit point, since with this method 10 is our standard.

5. When both decks are cued to a position 10 seconds from the new edit point you are ready to make your edit.

A drawback to this method is that if you make an imprecise or unclean edit you must retime both tapes from the cue points since there are no physical marks on the tape indicating the actual 10 second space between cue point and new edit point.

#3—BACK-SPACING SCALE METHOD

TO PUNCH OUT SPINDLE HOLE, USE SINGLE-HOLE PAPER. PUNCH UPSIDE-DOWN FOR ACCURACY. ENLARGE HOLE WITH PENCIL TO FIT SNUGLY OVER SPINDLE SHAFT.



This scale is for use with EIAJ-1 videotape or any system which runs at 7.5 ips, including the older CV system. It can also be used with Sony one-inch (EV) equipment which runs at 7.9 ips, as described below.

It should be cut and punched out, and attached to the takeup reel of each machine being used, with scotch tape. The scale should be placed to allow reading through the holes in the reels (mandatory in the case of opaque reels). To make permanent back-timing reels, simply attach securely and put scotch tape over the whole scale for protection. For half-hour reels, simply cut off excess length.

IMPORTANT: WHEN MAKING COPIES OF THIS SCALE, THE REPRODUCTION MUST BE *PRECISELY* THE SAME SIZE AS THE ORIGINAL. ANY ENLARGEMENT OR REDUCTION WILL RENDER THE SCALE USELESS.

HOW TO READ THE SCALE:

The large numbers represent whole turns of the reel. The smaller numbers indicate additional fractions of a turn, in terms of clock positions, i.e. 3 o'clock equals one quarter turn, nine o'clock equals three-quarters of a turn, etc. Do your own interpolating by eye.

HOW TO USE:

When you have determined your exact edit points on the original and master tapes, back-time each machine exactly 6 seconds as follows: Look STRAIGHT DOWN at takeup reel, lining up the outermost layer of tape with the numbers on the back-timing scale. Scale reading indicates exact number of takeup reel turns which will equal 6 seconds. READ THE SCALE CAREFULLY. Hold the rim of the takeup reel with your right hand, and then engage REWIND mode. Use right hand as a brake to slowly wind back tape the required number of turns. Make any final precise adjustments after the machine has been switched to STOP or PAUSE (STILL) mode.

When editing between formats which run at the same speed, make your final startup of both machines at precisely the same instant. Start from PAUSE (STILL) mode, rather than STOP mode, for a more precise startup. Punch your edit button by visual or audio cue, or by counting revolutions of whichever takeup reel is most convenient. When editing between different formats, startup time must be staggered appropriately. Example: When editing from EIAJ-1 half-inch to Sony (EV) one-inch, start the half-inch deck one quarter of a second sooner.

TIPS FROM DAN DRASIN:

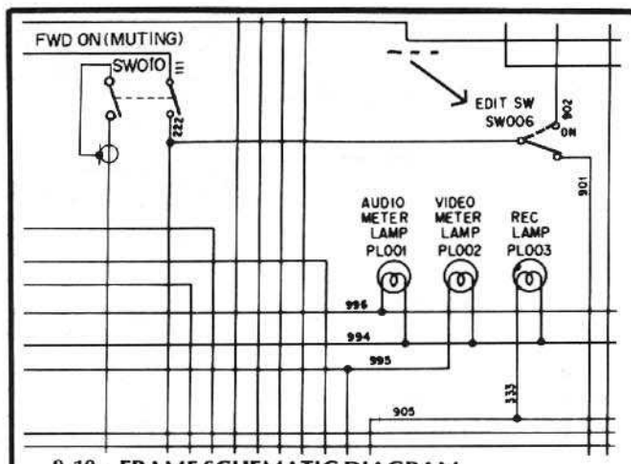
When doing electronic editing with ½" equipment, the SKEW (tape tension) control should be precisely adjusted on the playback deck for EACH SCENE. *This will increase time-base stability of edited master.* Adjust skew as follows: playback deck should be connected to an *underscanned* monitor, or one whose *height* or *vertical linearity* controls have been adjusted to squeeze the picture so black appears at the bottom. This will make the bottom few lines easily visible. (On Sony monitors this can be achieved by allowing the vertical to roll.) NOTE THAT THE BOTTOM FEW LINES "BREAK OFF" HORIZONTALLY FROM THE REST OF THE PICTURE. Adjust SKEW control of playback deck so the last few lines line up with the rest of the picture.

Black spots on the video picture, especially when the lens is stopped down for daylight shooting are caused not by dirt on the lens but by dirt on the vidicon tube face. Remedy: Clean vidicon carefully and thoroughly with Q-tips moistened with Kodak lens cleaner. Blow out all dust (even most microscopic will cause spots). ALSO CLEAN REAR OF LENS and blow away dust and chrome chips from C-mount thread. THEN ALWAYS KEEP LENS ON CAMERA. (If shipping camera, arrange case so lens can safely be left on.)

INFORMATION CONCERNING FIRST SERIES SONY 3650 MODIFICATIONS

(compiled in discussion with Morty Schiff of Woodstock Community Video who has innovated some recent modifications discussed below)

In first series Sony 3650 editing and playback decks (before #32,000) there is approximately a 2 second sound lag after the video appears when you are making edits. When the record button is pushed for an edit it activates a microswitch which turns off the audio amplifier to the record head thus causing the delay. In the past one way of dealing with this disturbing delay was to make a modification on the machine to eliminate it. This was done by placing a jumper wire between normally open and normally closed contacts of the edit microswitch. (See diagram below.)



9-10. FRAME SCHEMATIC DIAGRAM

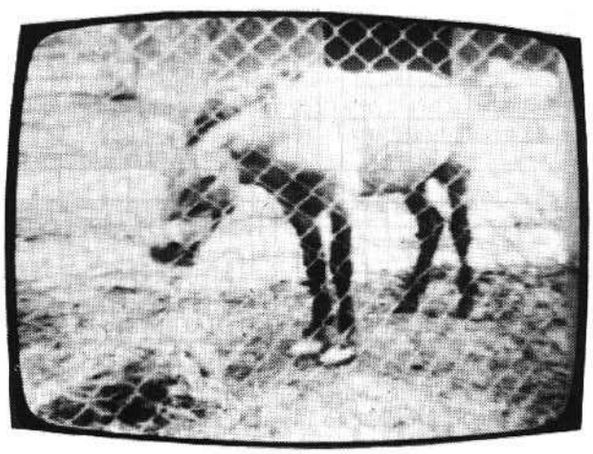
However, people who were having this modification made to their machines found that it eliminated the possibility of making video inserts (adding video over a prerecorded section of both video and audio without interfering with the audio). This was the state of 3650 modifications when we wrote about it in *RS* #5.

In a recent discussion with Morty Schiff of Woodstock Community Video, he mentioned that he believed that by placing a switch on the jumper wire you could have a choice of no sound delay when the switch is in the "on" position, or video insert capability when the switch is in the "off" position.

Woodstock Community Video has, however, been using another method for achieving the effect of video inserting, and in addition, eliminating audio lag. They have made a modification (see explanation of modification and diagram below) where they choose their visuals first, lay them down, with or without the audio, go back and overlay the sound they want, and then switch back to the video that goes with the overlaid sound without stopping the machine and with no sound delay. In other words, *with this modification you can go from "audio dub" to "record" sequentially without stopping the machine.* **(Normally, it's impossible to depress the record button once it is in the audio dub mode.)**

Example:
Woodstock Community Video has used this technique in what they call *assembly editing*. For example, they tape a straight interview. They also tape some visuals they'd like to see included in a presentation of the interview. When they begin to edit they start by selecting the visuals they want to use and lay these down with or without the audio that goes with them. They then go back to the interview itself, and audio dub its sound over those selected visuals. *Next, they switch back to the interview setting itself continuing the sound which goes with the interview, without stopping the machine, and without causing any sound delay. To reiterate, they go from "audio dub" to "record" sequentially without stopping the machine.*

"At the Catskill Game Farm we are aiding the preservation of near extinct species.



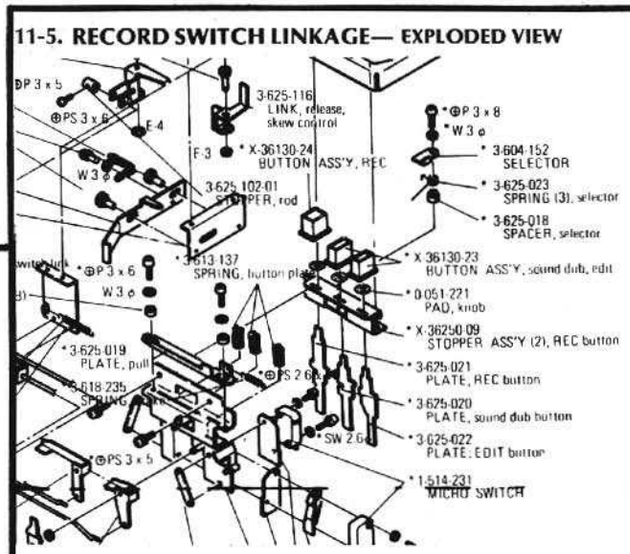
For example, we have here the Przwalski horse which is the only truly wild horse alive today."

HOW THIS IS ACHIEVED TECHNICALLY:
You pull out selector 3-604-152 and spring selector 3-625-023 and put back the screw.

(By the way, we believe you can continue to do standard video inserts after you've made the above modification by manually depressing the edit button for the duration of the insert.)

WANTED: Video technician to work with a program origination staff of a CATV system in New York State serving 50,000 people. Knowledge of ½" and 1" video technology necessary. Opportunity to help develop an effective grass roots video project. This is a salaried position. For further information contact: Andrea Kaufman, 20 Van de Bogart Road, Woodstock, N. Y. 12498, 914-679-9540.

11-5. RECORD SWITCH LINKAGE— EXPLODED VIEW



VIDEO TOOLS REPORT

Newer series 3650 editing decks have less of a sound lag than the first series (approx. only ½ second delay). This is not so disturbing and thus has not created the same need to make audio modifications as with the early 3650 series (up to #32,000). The following is a brief discussion of how to make a standard video insert, and how to compensate for the sound lag without making any modifications.

MORE NOTES FROM ANDY MANN TO YOU:

Making a Video Insert:
A video insert erases a portion of the video on your edited tape replacing it with new video. Sound is not effected.

The AV3650 shifts from the assembly mode (when, as in regular edits, both video and audio are recorded) to the insert mode (video only) when you keep the EDIT button depressed as you hit the RECORD button. A finger on your left hand keeps the EDIT button down, your right thumb hits the RECORD button.

The timing marks for video inserts are the same as for regular edits. You may want to include an additional mark on the tape to signal where the insert is to end. (I write OUT on the tape.)

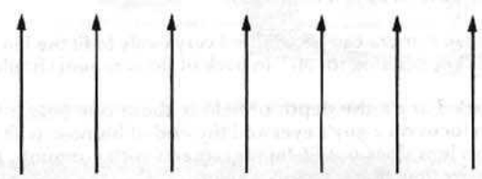
Compensating for Sound Lag on the Newer Series 3650
If there is an audio delay after you hit the record button on your record deck (and there *will be* unless you have had a modification made) you can avoid losing the audio you want by making the audio your cue for the edit rather than the video. Consider the following steps:

A. Take a look at the video edit you made.
   1. Playback the edit, and stop the tape as soon as the sound fades in.
   2. Then locate the X you marked on the record tape which signaled the edit.
   3. Mark an arrow on the black plastic part of the head drum cover assembly directly above the X on the tape. This arrow is your point of reference.

B. Re-do the edit
   1. Mark both tapes as usual, except,
   2. wind back the last timing mark on the record tape only as far as the reference point.
   3. Proceed normally.

Using this method, edits can be made so that the sound recording begins at exactly the time you want it to.

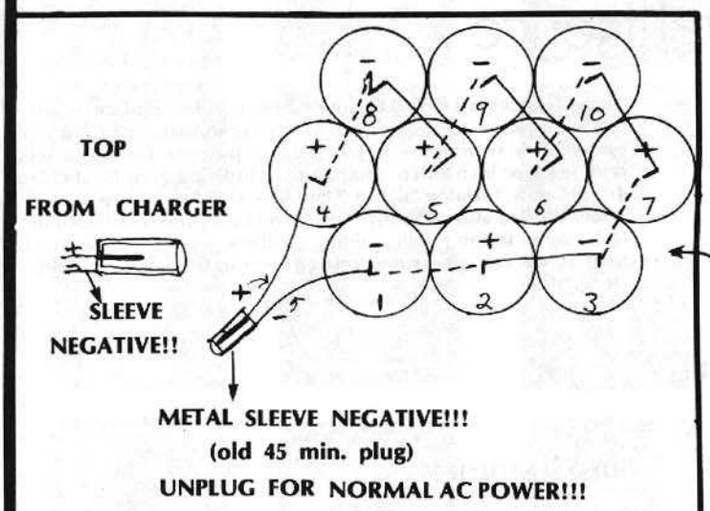
However, as mentioned, there will still be a few seconds of extraneous video without audio. It can look terrible if somebody's mouth is flapping away and there is no sound. If it looks bad, cover these few seconds of unwanted video with an appropriate insert (perhaps a still frame).



THERE'S A TIME TO ASSEMBLE AND A TIME TO INSERT.

The following was sent to us but without a name attached, or else we lost that information, so whoever sent this in if you want credit for the information let us know and we'll include it in the next issue of RS.

After getting ahold of a Portapak, I decided that a long range battery would be nice. Since Sony made one I figured, shit, I may as well buy theirs . . . until I found out the cost. So I made Sony's battery for about one-half the cost.



Suggest that you attach a handle and wrap tightly in plastic tape.

Needed:
10-4. Oscl #400469-205 @ $5.35 (with solder lugs)
Purchased from:
Gould National Batteries (1.2v X 10=12v)
Gould, Inc.
NiCad Battery Division
1110 Hwy. 110
St. Paul, Mn. 55118
Tel: 612-425-1500

1-Battery Charger Output 14.5 vdc @ 400ma. Constant current. Cost $7.50.

Purchased from:
Dynamic Instrument Corp.
115 East Bethpage Road
Plainview, L.I., New York 11803
Tel: 516-694-6000

1 male and 1 female external power source (connectors donated by my trusty, rusty Sony dealership).

The following is the best packing scheme I came up with:

Gould is *supposed* to have a new gelatin cell that is cheaper, lighter, better, etc.
Charging time: 14 to 16 hours. Thus a one hour run would mean about a four hours charge since it is a four hours battery. DO NOT charge with regular power supply; the charge rate is too excessive.