

VIDEO MANUAL



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TIME BASED ART

COLLEGE OF FINE ARTS

UNIVERSITY OF NEW SOUTH WALES

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Photo
Jac

(mono)



CANON



MINI 3



(mono)

VIDEO FORMATS

There are a number of video formats that you will come across at CoFA:

VHS is the most common domestic format. It uses 1/2 inch tape and is good for doing off-lines, preview tapes, etc. It may have audio (depending on the machine) that is recorded mono or stereo, with or without Dolby noise reduction, or possibly with Hi-Fi sound.

SVHS VHS tapes may be played back on SVHS equipment but not visa-versa. SVHS edit decks and some SVHS camcorders have Hi-Fi sound capability. Results of a high technical quality may be attained on SVHS equipment. The video signal is y/c.

SVHSC is simply a half size SVHS cassette for use in the JVC GR-S707 camcorder. It must be placed in an adaptor (available from the Resource Centre) to play in a SVHS deck. On the edit machines in the SVHS A/B Suite, select compact size on the front of the machine and place cassette directly in, but only if the cassette is 30 mins or less- otherwise use an adaptor. These tapes often jam in the editors.

Betacam is broadcast quality and our machines generate SMPTE time code.

CoFA's machines are standard Betacam and have Dolby noise reduction. The Audio-Visual Unit on the Kensington campus of UNSW has 2 Betacam SP edit suites and camcorders (which are available for student and staff hire). Our standard Betacam tapes are playable on most (not all) Betacam SP machines but not visa-versa. Betacam is 1/2 inch tape. (Campus Store: \$32 for 30min tape)

U-Matic is used primarily for making screening dubs. U-Matic uses 3/4 inch tape and is robust, clunky, the image quality is good and is a common format for festival screenings and gallery installations etc. Many independent facilities still use U-Matic for off-lines and masters. The incompatible, broadcast (High Band) version of U-Matic is called BVU.

Hi-8 is used in the Research Computing Lab for recording directly from the video out of the computers. There are two Hi-8 camcorders in the Resource Centre. The video signal is y/c and Hi-8 uses 8mm tape.

Quicktime is the video standard for PC and Macintosh platforms. Current version 1 not full frame or full-motion. Chews up memory but can produce very effective results. (15 frames per second max)

Mini DV is a consumer digital tape format. "Mini" refers to the size of cassette, which is similar in size to a DAT cassette. The College currently has one camera of this format for image acquisition. There are no DV edit suites here.

CAMCORDERS AND CAMERAS (available from the Resource Centre)

- 1 x **PANASONIC M5** VHS Camcorder. Mono Audio.
- 1 x **PANASONIC M7** VHS Camcorder. Mono Audio. External mic and headphones sockets.
- 1 x **JVC GR-S 1000** SVHS Camcorder. Hi-Fi and Normal sound. Manual audio level option.
- 1 x **JVC GR-S 707** SVHS Camcorder. Uses SVHS C compact cassettes. Manual hi fi audio level option. Headphone out. "Animates" at 1/4, 1/2 and 1 second time intervals.
- 8 x **PANASONIC MS4** SVHS Camcorder. Hi-Fi and Normal sound. No headphones out, built in speaker. Best camcorder for image quality. Has also digital zoom and effects. Pattern selectable stereo mic.
- 1 x **SONY CCD TR2000** Hi 8 Camcorder. Small, stereo audio, steady shot. Good quality image, but you lose a generation dubbing to another format if you want to edit at COFA.
- 1 x **SONY CCD TR3000** Hi 8 Camcorder. Similar to above.
- 1 x **SONY DCR-VX1000E** Digital Camcorder that records onto Mini DV Digital Video Cassette. 3 CCD image capture. PCM 12 bit stereo audio recording, audio levels are manually adjustable. There is an input for an external microphone.
- 1 x **SONY 6800 U-MATIC PORTA-PACK** Heavy 3/4 inch portable video recorder, for use with any camera with video out. Requires heavy power supply unit.
- 1 x **CANON ION CAMERA** Low resolution video stills camera. Records 50 stills onto disk. Has composite video out. (Disks \$30 each from Paxtons in George St.)
- 2 x **SONY DXC 3000A** These cameras belong in the video studio. They are not for borrowing. 3 CCD. These cameras are connected to the betacam suite. Use only Camera 1 for chroma-keying. (see page 44 - 46 for more details)

VIDEO FACILITIES

Edit Suite 1 **Betacam Edit Suite** is available to Time Based Art 3rd year, MFA, MA and Honours students. A/B roll suite with Sony BVS 3100P Vision Mixer and Audio Mixer. U-Matic and SVHS decks for dubbing. Sony BVE 600 Edit Controller. Copy stand camera and linked to video studio. Player 1 has slow/fast motion.

Edit Suite 2 JVC SVHS to SVHS edit suite with cassette player. Hi-Fi and Normal audio plus Dolby NR. Teac Audio Mixer.

Edit Suite 3 JVC A/B SVHS Suite is available to current Time Based Art students except 1st years. Copy Stand Camera and cassette player. MX-30 Vision / Audio Mixer with Character Generator. Hi-Fi and Normal audio plus Dolby NR. Player 1 has slow/fast motion.

Edit Suite 4 Panasonic SVHS to SVHS edit suite. Hi-Fi and Normal audio plus Dolby NR. Teac audio mixer and cassette player.

Edit Suite 5 JVC SVHS to SVHS edit suite. Normal and hifi audio. Teac audio mixer and cassette player.

Video Studio may be used by all except 1st year students. You may record in the control room to SVHS, Betacam or U-matic, or bring a VCR into the studio and connect to the video-out of one of the DXC-3000 cameras.

Film shoots may also use the studio.

The Cyclorama may be painted other colours, but check with technical staff first.

Don't walk on the curve.

Safety first with ladders and lights. Use 2 people to move any ladder.

Keep studio clean and return all gear to positions on wall diagram after use.

Treat tripod heads with extra care. Loosen nuts before tilting or panning! Lock off nuts when camera is unattended!

Fairlight CVI was cutting edge, cheap '80s Australian digital video effects technology as made famous by Peter Callas. Quirky. On trolley and may be connected to any facility. The drawing pad doesn't work too well any more.

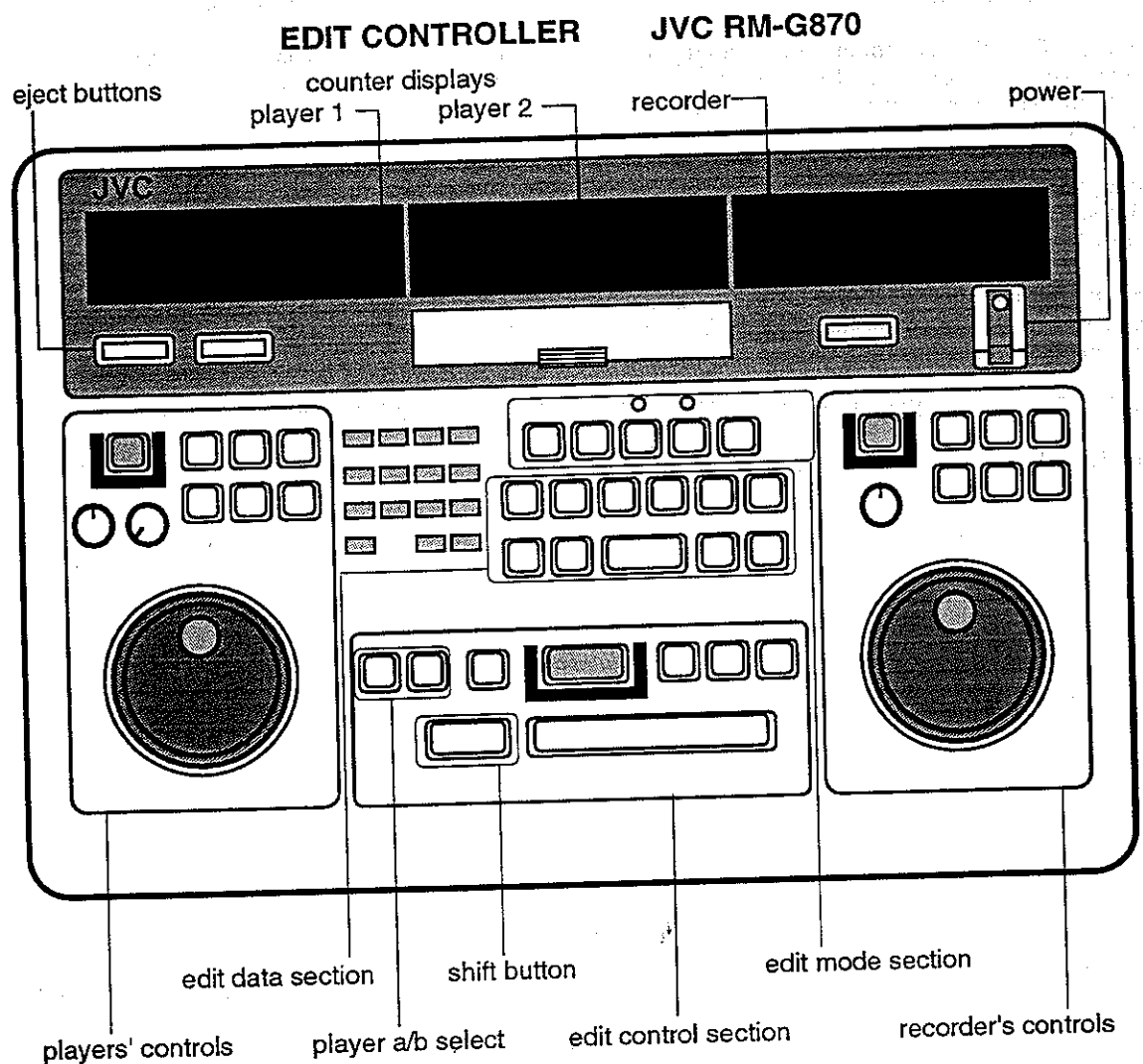
Dub facility is in the Resource Centre. They can dub S/VHS to S/VHS and dub between PAL and NTSC in VHS. You may also borrow VHS decks from the centre.

OPERATION OF EDIT SUITE 3 (A/B SVHS SUITE)

These edit machines accept compact-size video cassettes without an adaptor, but if your video compact cassette is more than 30 minutes, you'd best use an adaptor. Next to the entry slot is a button to select either full size or compact size. If using an adaptor, select full size. Be aware that compact tapes are not built for the rigours of editing, and stand a reasonable chance of jamming and/or snapping. Any cheap tapes or old tapes have similar problems, and are definitely not recommended in any edit suite. If you use shitty tapes, you run the risk of breakage, dirtying the heads for other users and, at best, getting shitty results. If you are unsure about which tapes to use, go ask the support staff.

CHECK BEFORE STARTING

- Is the Recorder's selector on SVHS or VHS ? (Under front panel of Recorder)
- Correct button pressed on the program out section of the Mixer. (A, B or Effect)
- Is the Recorder's input select set to Y/C 443 to receive a signal from the Vision Mixer ?
- Audio Faders on the Mixer are up, as are the Record Level knobs on the Recorder (for audio editing).



EDITING ON SUITE 1 - BETACAM

This suite plays and records onto Betacam tapes.

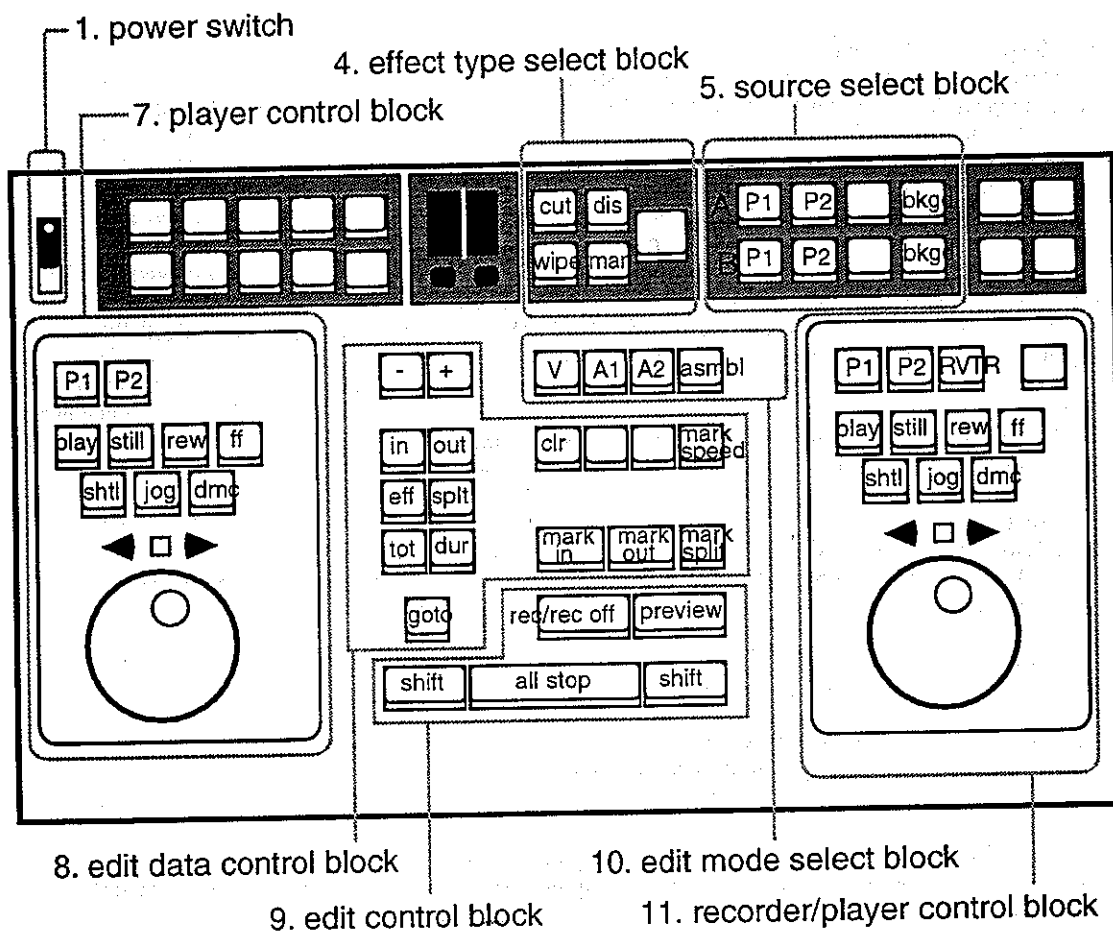
This suite cannot record anything onto Betacam SP tapes.

This suite can play Betacam SP tapes that have Betacam recordings on them (recorded elsewhere).

This suite can play Betacam SP recordings but they will look funny.

This suite has little to do with Betamax.

BVE - 600 EDIT CONTROLLER, AS USED IN THE BETACAM SUITE



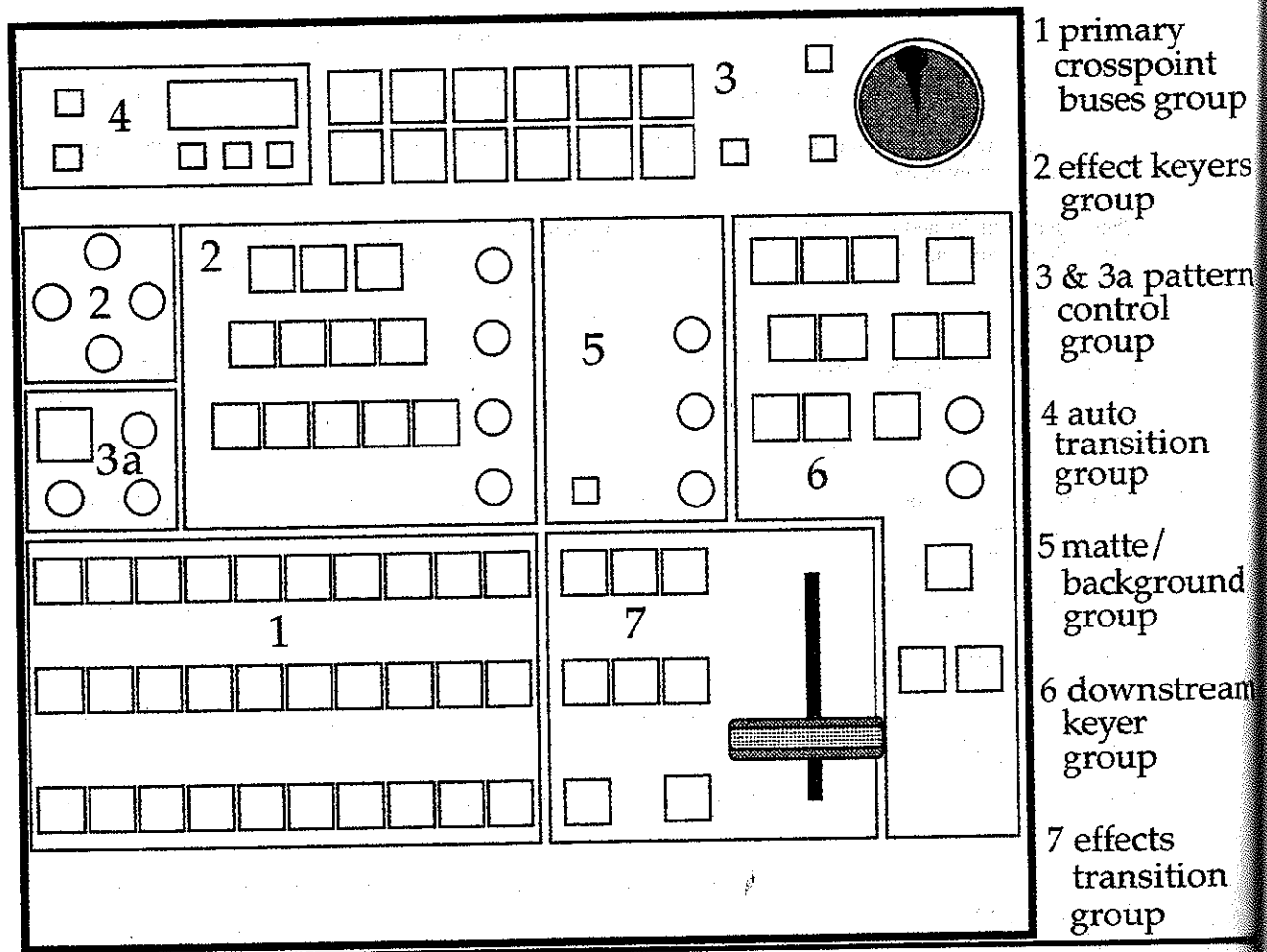
SONY BVS - 3100P VISION MIXER

Except in a few special cases, all images that land on your betacam tape have to first go through the Vision Mixer - the device with all the lights on the right side of the console. While the Edit Controller controls the motion of the Betacam machines, the Vision Mixer controls which images end up on your recording.

This means, for example, if you set up In and Out points etc on the Edit Controller to do an edit from Betacam Player 2 to the Betacam Recorder, you must ensure that the Vision Mixer is set up to supply Player 2's images to the Recorder.

MONITORING

To see what the Vision Mixer is doing, go to the Monitor Switcher (small grey box on the console), and select "prog". The right side monitor will show you what the Vision Mixer is outputting. The left side monitor is a Preview Monitor. If you're doing a "live" mix during an edit, the Preview Monitor displays the "next" image that you want to mix to.



SUMMARY OF SYNCHRONISATION AND TRANSFERS : **Editing / Making an SVHS guide/ Multitracking / Transferring**

OR

EVERYTHING YOU ALWAYS WANTED SOMEONE ELSE TO DO FOR YOU BUT WERE AFRAID TO ASK.

WHAT'S THE SVHS FOR? You need to make a SVHS version (VISUAL GUIDE) of your film/video to use in the audio room, where it will be the "Master". Protocols will "chase" this tape. When you have finished recording and mixing your soundtrack, you will transfer that sound back to the Betacam videotape, or to a DAT tape if you're going to finish on 16mm film. At no stage do you transfer your sound to it. The following methods explain what to do with your sound from the end of the shoot, through the editing process, working with your sound in the Audio Control Room, mixing down, and transferring your sound back to your visual master.

STEP 1 : "Black" your master Betacam tape. The process of "blacking" the tape automatically writes Timecode (SMPT-E) on to your tape. This timecode will remain on the tape while you "insert" visual and audio information. Make sure the machine is set to "TC" not "CTL". Set a start point (e.g. 00:00:00:00) as follows: Go to the group of four buttons on the Betacam Recorder marked "Timecode". Push "hold". The first digit in the display (of hours/minutes/seconds/frames) will start to flash. Push "advance" to change the digit. Push "Shift" to move on to the next increment (e.g. minutes). When you've got your start time, push "preset" to store the number. When you wind your tape back and start recording, it will momentarily show the old value before changing to the value you have selected.

STEP 2 EDITING :

This step depends on what format you are using. The end result of this step is a **Fine Cut on Betacam with all location sound, in sync, on the audio tracks.** Follow the procedure relevant to your project, but for all procedures, leave at least 30 secs on the Betacam master tape before your first image.

(a) SHOT ON VIDEO, WITHOUT LOCATION SOUND

Either fine cut on SVHS and insert the edit to your "blacked" Betacam tape, or transfer rushes to Betacam and edit to another Betacam tape (which must also be "blacked").

WHEN EDITED, GO TO STEP 3

(b) SHOT ON VIDEO, WITH LOCATION SOUND RECORDED STRAIGHT TO TAPE

Same as (a); except all edits done as visual and audio inserts.

WHEN EDITED, GO TO STEP 3

(c) SHOT ON 16MM WITH/WITHOUT LOCATION SOUND; EDITING via WORK PRINT; FINISHING ON FILM.

WHEN EDITED, GO TO STEP 4.

(d) SHOT ON 16MM WITHOUT LOCATION SOUND; INTENDING TO EDIT/FINISH ON VIDEO AND HAVE TELECINED RUSHES TO BETACAM AT A PROFESSIONAL LAB

The easy one. Edit your film to another blacked Betacam tape. (*Remember to leave at least 30secs at the beginning of your master Betacam tape.*)

WHEN EDITED, GO TO STEP 3 .

(e) SHOT ON 16MM WITH LOCATION SOUND; INTENDING TO EDIT/FINISH ON VIDEO AND HAVE TELECINED RUSHES TO BETACAM AT THE LAB

This depends what you've done (and how much money you've spent) at the lab. If they've already synced your DAT/Nagra tapes to your rushes and transferred them to the Betacam tape, then just follow method (d); except make sure that all your edits are visual and audio. If you only have visual rushes, this one is a little time consuming (though cheaper).

(i) Take the DAT/Nagra into the Video Control Room. Then, transfer your location sound tapes (*including clapper boards*) to another Betacam tape: Patch from the DAT/Nagra output to the Betacam Recorder audio inputs ("BCM REC 1 & 2") on the "in" row of the audio patchbay). Put the Betacam into audio (1 & 2) insert. Check the audio level on the Betacam (with your loudest sound). Then transfer the DAT/Nagra tapes to Betacam.

(ii) Now you have a visual rushes Betacam tape and an audio rushes Betacam tape.

Put the visual tape into the Betacam Recorder; and the audio tape into Betacam Player 1.

Sync up each take (*visual and audio clapper boards*) and put the Betacam Recorder into audio insert (1 or 2). **Make sure it's not in video insert!** Transfer the sound from the Player tape to the Recorder tape.

(iii) Now you have a tape of synced audio/visual rushes. Edit your film to another Betacam tape, remembering that each edit is an audio/visual insert. (*Remember to leave at least 30secs at the beginning of your master Betacam tape.*)

WHEN EDITED, GO TO STEP 3

STEP 3: MAKING THE SVHS VISUAL GUIDE TAPE

YOU HAVE:

- * Your edited Betacam tape in Betacam Player 1
- * A blacked SVHS tape in the SVHS machine in the Betacam rack.

YOU WANT:

- * A n SVHS tape with boxed visual timecode and audio timecode on Track 2. (You will later use this tape as a visual guide in the audio room.)

#1: VISUAL PATCH

OUT _____ **IN**
Player 1 →→→→→ADX IN
ADX OUT →→→→→SVHS REC
SVHS REC →→→→→ MON SW I/P 1

(b) BETACAM PLAYER

Check this machine is set to "TC" NOT "CTL"

(c) SVHS RECORDER

- * Check that "SVHS" button is OFF; "Simul" button is "ON"; channel is set to "AV".
- * Press Record, then pause immediately afterwards.

#2: TIMECODE PATCH

OUT _____ **IN**
P1 T/C →→→→→ADX IN
ADX OUT →→→→→SVHS 2 IN

Start the SVHS recording and play the Betacam.

NOW GO TO STEP 5.

STEP 4: (16MM PEOPLE) MAKING THE SVHS VISUAL GUIDE TAPE

YOU HAVE:

- * An edited 16mm film workprint with one or two tracks of mag sound (I'll assume two).
- * A blacked Betacam tape.
- * A blacked SVHS tape
- * Brought the 6 plate Steenbeck into the Betacam Suite. (Ask staff for instructions on how to unscrew the visual head, which you need to do to get it through the door)
- * Brought Camera 1 from the video studio into the suite, and framed your Steenbeck image on the camera.

YOU WANT:

- * A Betacam tape with image and sound. (This will be both your safety copy, and also the copy from which you make your SVHS tape)
- * An SVHS tape with boxed visual timecode and audio timecode on Track 2. (You will later use this tape as a visual guide in the audio room.)
- * In one transfer, you will make both the Betacam and SVHS tapes.

#1: VISUAL PATCH

(a) VISUAL PATCHBAY

OUT _____ **IN**
Camera 1 →→→→→B'Cam Rec
B'Cam Rec →→→→→ADX IN
ADX OUT →→→→→SVHS REC
SVHS REC →→→→→TBC
TBC →→→→→SEG INPUT 5

(b) BETACAM RECORDER

- Check this machine is set to "TC" NOT "CTL"
- Prepare it for a visual insert.

(c) SVHS RECORDER

- * Check that "SVHS" button is OFF; "Simul" button is "ON"; channel is set to "AV".
- * Press Record, then pause immediately afterwards.

#2: TIMECODE PATCH (Betacam/Audio Control Suites)

BETACAM SUITE AUDIO PATCHBAY

OUT _____ IN
RECT/C →→→→→ADX IN
ADX OUT →→→→→SVHS 2

- * Start the Betacam's visual insert, put the SVHS into record, play the Steenbeck.
- * Remember you must transfer the edited sound from your mag reels directly to Protocols in the audio room.

NOW GO TO STEP 6

STEP 5: TRANSFER LOCATION SOUND TO PROTOOLS

As the Betacam master tape is where your final soundtrack will end up, you need to get the location sound over to Protocols in the Audio Control Room.

- * If you've done your edit on SVHS, it's best to get your sound from that tape (even though you've had to go to Betacam to make a visual master that you can synchronise to).
- * The following example assumes that the best edited version of your location sound is on both Betacam tracks.

BETACAM SUITE AUDIO PATCHBAY

OUT _____ IN
PLAYER 1 1&2 →→→→→AUDIO CONTROL 1 & 2 (Example)

SOUND ROOM MAIN PATCHBAY

OUT _____ IN
VC 1&2 →→→→→TAPE 11 & 12 (Example)

- * Pan desk channels 11 and 12 left and right.
- * Press the group 1-2 button on both channels.
- * Push up the group 1 & 2 master faders in the output section of the desk.
- * Set two Protocols tracks to record (make sure they're set to "input 1" and "input 2" in the "Display I/O view" column).
- * Set recording levels at the loudest part of your tape. Adjust levels with either the channel 11 & 12 faders or the Group 1 & 2 master faders.

*Start Protocols recording and play the Betacam tape. When you've finished recording, use "spot" mode to move the two audio tracks into sync with your new SVHS visual guide tape.

Alternative method: Patch straight out of REC 1&2 OUT to a portable DAT machine, then transfer the DAT tape to Protocols in the other room.

*** GENERAL NOTE :**

If you find yourself with enough time later in the semester, obviously it will be better to go back to your original tapes (DAT or DV or SVHS) and re-sync them in Protocols to replace the audio that has been through a video stage. In any case, you'll need the edited version there as a guide to do this.

STEP 6: MIXDOWN

Finishing on 16mm: Record straight to DAT. See yous later
Finishing on Video : You lucky people go to **STEP 7**

STEP 7: STEREO LAYBACK TO BETACAM VIDEO MASTER

*** WHAT? WHAT IS THIS NOW?**

- * You're putting your final sound back on to your Betacam master tape.
- * You've done a stereo bounce (final mix) of your soundtrack. You need to have booked both the Audio Control Room and The Betacam Suite.
- * The Betacam will be the MASTER (just as the Audio Control room VCR was during your tracklaying), and Protocols will be the SLAVE.

1. BETACAM SUITE

(On Audio Patchbay)

* REC T/C OUT →→→* AUDIO CONTROL TIELINE 1

A tieline is one that can serve as an input or output. Thus "audio control tie line" can send or receive signals from the audio control room.

2. AUDIO CONTROL ROOM

* V.C.TIELINE 1 →→→→ SSD IN

Thus we have Betacam as Master, Protools as slave. Play the Betacam and make sure that Protools follows it.

* PROTOOLS OUTPUTS 1&2 →→→→ VC TIELINES 2 &3

3. BETACAM SUITE

* AC 2 &3 →→→→ BETACAM RECORDER IN 1 & 2

* Set the record levels on Betacam record deck. Also, nominate audio insert 1&2 on deck.

* Listen to the Betacam outputs to monitor the audio.

* Start the insert.

Simon Hunt

1. BETACAM SUITE

(On Audio Patchbay)

* RECT/C OUT →→→* AUDIO CONTROL TIELINE 1

A tieline is one that can serve as an input or output. Thus "audio control tie line" can send or receive signals from the audio control room.

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* AC 2 & 3 →→→→ BETACAM RECORDER IN 1 & 2

- * Set the record levels on Betacam record deck. Also, nominate audio insert 1&2 on deck.
- * Listen to the Betacam outputs to monitor the audio.
- * Start the insert.

Simon Hunt

CONNECTORS - AUDIO + VIDEO

RCA (MALE) (audio or video)

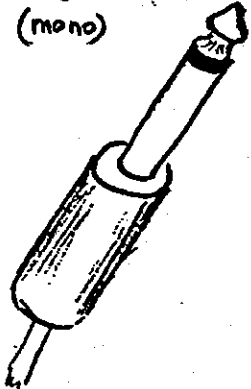
RCA (FEMALE)



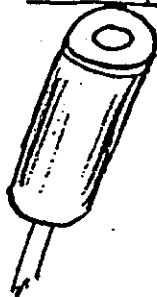
BNC (male) (video only)

Phono Jack (MALE) (audio)

(mono)



Phono (FEMALE)

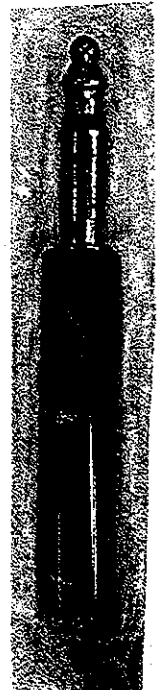


Phono (STEREO) JACK (MALE)



CANON 3 PIN (MALE) (audio)

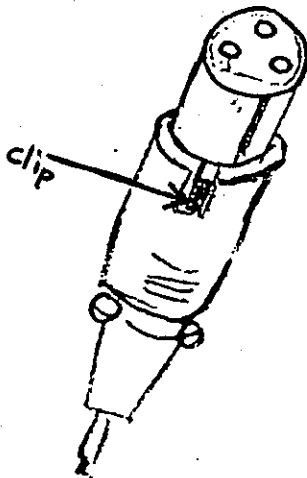
CANON 3 PIN FEMALE



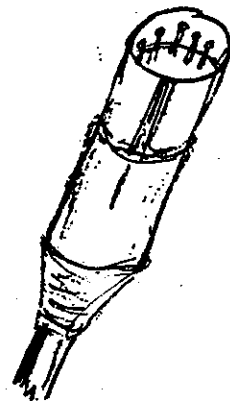
PMG (ring/tip/sleeve)



MINI JACK (MALE) (audio)



DIN 5 PIN (MALE) (audio or midi)

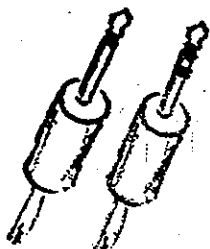


4 Pins guide

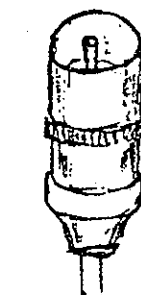


S-video

MINI JACK (FEMALE)



(mono) (stereo)



RF (Male)



RF (Female) (video/audio)