**TIPS FOR USING PORTABLE HALF-INCH EQUIPMENT**

**THREADING**

Threading is the first step toward making a videotape. Make sure the machine is turned off and there’s no whirring sound coming from the heads.

Make sure your deck is in the STOP position besides being OFF. There are two different things. If you leave it in the ON-a motor position—you’ll have a chance of threading the heads.

The heads spin at a high rate, if they’re still moving when you’re threading, the tape can become caught and damage the heads and/or tape.

Check the threading diagram.

Watch tape coming off and going on to take up reel to see that it’s moving smoothly and regularly. If something goes wrong put machine in STOP and wait till heads stop spinning and then try to correct error.

A lot of times the tape will sit on the edge of a roller—you’ve got to watch and see that it’s moving smoothly.

The last thing to check your threading is put it in OFF—those are two different things. If you leave it ON—head-to-tape contact can he maintained when the tape is used again.

An important consideration is to preserve the medium so that adequate ability to retain intelligence for an indefinite period of time. The most adequate head-to-tape contact can be maintained when the tape is used again.

**BATTERIES**

Check by putting record lever into record.

They usually last 30 minutes. You can count on good strong power for no longer than 30 minutes. The battery meter does not register in rewind.

Old batteries from CV can be adapted to work with AV series.

The instruction book is very clear about how to insert the batteries in the back of the deck. If they’re charged simply put the machine in play.

The AV model has two batteries that put out 12 volts. The old deck (CV model) uses the same batteries but in a different configuration.

There are two ways to tell when the batteries are going. One way is the battery charged meter on the deck. The other is when you can see the picture start to flutter (in the camera), then it starts to be impossible to focus. If these two things happen, your batteries are low. Change them or recharge them.

All decks, when purchased new, come with a charger which also acts as a power supply. The deck and camera run off DC power. If you want to use wall current, which is AC, use the power supply/adapter.

Cine 60 Battery Belt will supply from 24 hours of power for portable tape recorder from 12 volt source output. Rechargeable but expensive.

Sony claims to have new more efficient batteries.

**TAPE**

Most manufacturers make reels so you can only put them on the deck one way.

There is only one side of the videotape you’re supposed to record on.

There are two different types of helical scan tape in the market now:

1. Oldies type—sliny on outside and duller on recording side.
2. New type—called "dull back" tape is extremely dull on outside and shiny on recording side. The difference is a lot cleaner.

(UNCONDITIONED) There is soon to be (not presently available) a third type made per 28M. A chromium dioxide tape which will coat the same but supposedly has no drop out and the signal to noise ratio is very much better. Older machines will have to be adjusted to accept it because it requires a different recording current.

**COMPUTER TAPE**

Don’t write on computer tape. Computer tape isn’t hard enough to withstand the pressure of impact of the video heads. What happens to the tape? Nothing. But on a video buildup up on the video heads. You don’t get very dirty and will break if enough residue gets on them.

**TAPE**

Tape is Sensitive To:

1. Moisture—can cause dropout
2. Magnetism (like power supply from Electric Generator, voltage regulator, top of monitor)
3. Heat
4. Touching recording surface at all with your hands causes greaser deposits
5. Multilation—getting caught in machinery or twisted. Remove portion that is wrinkled.
6. Dust

**Problem:**

The most common problem is dropout.

The recording surface is coated with an Iron Oxide. As long as the continuity of the oxide layer is broken the tape is intact and won’t show any defects. If the oxide is disturbed (grain, inadvisable, crumbling, moisture, etc.) then dropout, which is lack of Oxide on the Tape, results. This shows up on the picture as a white line, a white line synchronous screen and moves rapidly to top. There is no way to replace lost oxide—can’t repaint. There are commercially produced dropout compensators which hide but don’t replace dropout.

Any sudden momentum change other than motor function to STOP can cause problems. 1. Tape gets caught under lip of red-chips oxide. When played will hear a buzzing sound. Switch should be physically edited out of tape. 2. Can get off tape path and become ensnared in mechanism of machine. Damaging tape and machine.

**Handling:**

Don’t handle the parts you want to look at. Make sure your hands are clean. Handling the leader is OK as long as you don’t put across the heads as it would deposit a layer of oil.

However, the tape is essentially rugged and strong and resists well to strain and tension, and can be recoiled.

**MICROPHONES**

The microphone that’s built into the camera is an adequate low impedance, omnidirectional microphone for unheard rooms.

Basically what happens is you get all the background noise which sometimes draws out the noise you want. You can bypass the camera mike by plugging another mike into the deck with a minijack. Sony uses these for all audio connections on half inch and can be purchased in any hi-fi store. When you plug a microphone into the mike input on the deck, it cuts off the mike in the camera. You can’t use both. If you want to use more than one microphone, you need a microphone mixer.

**TAPE STORAGE**

Magnetic tape will be unaffected by nuclear radiation until the dose approaches a 100 murep level. 200,000 times greater than the dose for 50% of the exposed humans. Radiations of this level tend to increase the layer-to-layer signal overlap or "print through," but normally would not be serious enough to present information retrieval. This very high radiation level will also have some physical effect on the tape coating and backing, which will show significant embrittlement, and can reduce the life by as much as 50%.

Under proper storage and handling conditions, magnetic tape has the ability to retain intelligence for an indefinite period of time. The most important consideration is to preserve the medium so that adequate head-to-tape contact can be maintained when the tape is used again.

**CONSUMER ELECTRONICS SHOW DAILY**

**Maintenance of Deck**

Keep the heads clean.

Cleaning Video Heads: use cleaning stick with chromatic cloth glued to one end and dip into alcohol. Don’t use cleaning stick for cleaning video heads when it becomes visibly dirty.

Other Heads: use cotton swabs with rubbing alcohol.

**Source:** Scientific American, March 1930