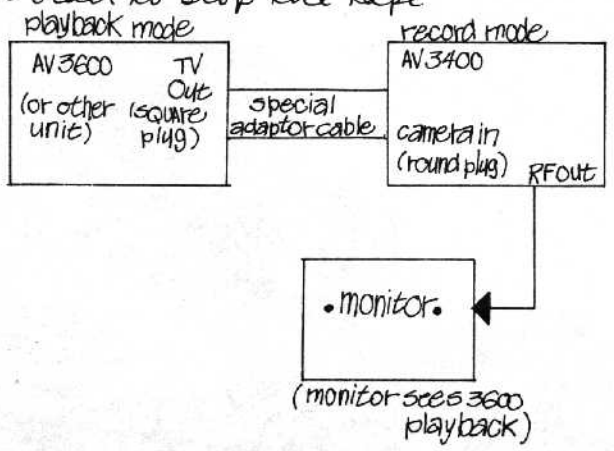
GOOD NEWS

Ideally ½" tapes should be edited on 1" equipment. The problem with editing on other equipment is that you tend to have a stability problem around the cut – the picture rolls or breaks up during and after the cut. With a 3650 you have a sound problem but good video. Recently workers at the National Film Board have found a way of minimizing these problems while using inexpensive equipment. The trick is to use the 3400 as the recorder and the 3600 (or other unit) as the playback while editing instead of the other way around as most people do. Use the still picture button on the 3400 and leave it in record mode all the time. Play the original tape on the 3600 until you come to the point you wish to cut in on and then, with the 3600 still running, start the 3400 using the stile button. Stop the 3400 exactly at the point you wish to cut to the next shot and do not disturb the tape. That's the thing that avoids the roll – if the tape is left at the exact tension and place where it was stopped then 4 times out of 5 you do not get instability at the cut point. Since the 3400 uses the smaller reels there is less mass to get going when you release the still button. Naturally, in order to stop the tape exactly at the point you wish to cut, you will have to be very familiar with the material. If you make a mistake and have to rewind on the 3400 a bit you will get a bad cut. We are not quite sure why this method works so well or whether it should work theoretically – the point is that it does work and although it is not very convenient it is a way of saving thousands of dollars on editing machines.



TRANSFER OF ½" TAPE TO MOVIES

Some of the large problems involved in the production of finished programs originally shot on half inch can be solved by adding a large smattering of money in transferring it to 16 mm movie film. Upon transfer, the resultant product can be handled like a movie film in terms of editing and exhibition. The film can be edited like movie film and if a "double system" transfer is made (that is that the sound is independent of the picture) sophisticated sound, picture editing is possible with a precision difficult to obtain with present video tape editing techniques. Tapes recorded on old system equipment often don't have the stability to be edited properly and transfer to 16 mm film is sometimes the only way of salvaging a valuable sequence.

The method generally used to transfer video to movie film is extremely simple, the tape is played onto a high quality monitor and filmed with a camera. Careful control must be made of the exposure and somehow the scanning rate of the monitor and the filming rate of the camera must be interlocked to prevent flicker or that familiar black bar that appears in the middle of a TV screen when a movie camera is pointed at it. One of the best places to make such a transfer is a company called Rombex Productions Corporation, 255 West 55th St., New York City 10019. Their rates are high—$11.00 per minute for a double system transfer with a minimum of ten minute segments but it is a tricky business to do well and the results which I have seen of their work are nothing short of spectacular.

The quality of the transfer depends of course on the original tape. If the original has good contrast and low noise (i.e. it was recorded under reasonably high light levels) then the transfer will be good. If the original tape is bad, the transfer will not help things. Even the best of transfers from video is not anywhere near film quality, but it is not unpleasing. You don't get any of the crispness that you take for granted in film. It is soft, low contrast and seems slightly out of focus. Any defects on the tape are naturally enormously magnified. The results, are better, however, than most video projection I have seen, if only because the contrast and overall picture brightness is carefully regulated during the transfer process.

Obviously film transfer should be considered only in rare special cases. It is costly and the picture quality is not up to the standards which people have come to expect from the screen. On the other hand, if your tape is extremely interesting and you intend to show it to large audiences it's good to be aware of it as a possibility.

Ron Blumer

TRANSFER OF ½" TO 2"

AV-3400 (Porta Pak) to 2" quadrature VTR or standard TV system is not possible due to several factors:

a) Speed instability on a short term basis due to lack of precision mechanically, which is normal for a machine in this price range.

b) Due to the Servo action of this machine, the basic reference speed is always being corrected slightly. By nature of the Helical scan format the only good reference for externally connected equipment is a 30 hz frame rate, which syncs equipment very nicely at a Vertical or Frame rate, the required line rate or Horizontal freq. has no such reference or at best a very poor reference.

Since both these frequencies or rates are required in a very accurate relationship by professional equipment it can be seen why this type of operation is not possible.

Possible alternatives.

Because the AV-3400 is completely portable it is ideal for on-the-spot coverage etc., but the problem arises how to recover the video at the studio. This can be done quite simply, by playing back the AV-3400 on a monitor and then picking up the picture with a studio camera off the face of the monitor and the disadvantage of this procedure is a considerable loss of quality but for important material the poor quality is acceptable.

Video Transferring with AV-3600

Transferring to 2" VTR or playing back into a TV system can sometimes be accomplished under certain conditions. One condition is that the machine be reasonably stable and running on speed. Two is that the video recorded on half inch tape must be recorded with EIA sync information, as opposed to industrial sync, which is what we have when a recording is made using standard Sony cameras.

In summing up the above information, it would appear that not only the specific equipment, but any equipment of this nature (i.e. Helical scan) the same difficulties will always be experienced when attempting to transfer to most Professional systems. This would also include 1" equipment using the Helican Scan format.

There has recently appeared on the market a device called a Processing Amplifier originating from several different manufacturers which was supposed to be the "cure all" for most of the troubles mentioned previously. On the contrary however, the Proc. Amp. served to point out the weak points of Helical Scan even more.

When originally the recorder was played back into a standard monitor and a good pix was available, then the Proc. Amp is placed in between the Rec. and monitors the Picture becomes unstable at the top and gray shading bars are noticeable, hence there appears to be no "c bars are noticeable, hence there appears to be no "cure all" or easy way of overcoming this basic weakness in Helical Scan equipment.

GORDON MATSELL

NFB TELECINE CHAIN

Our Telecine chain consists of the following equipment:

1) The Sony AVC-3400 camera with a wide angle lens 15 mm to 25 mm, plugged into a CMA-2 adapter to allow camera to be used directly from the mains and then feed video to any system.

2) Bell & Howell Jan Projector modified as follows:

a) Special Shutter blade to eliminate flicker due to the difference in frame frequencies 24-30.

b) The motor is a special Turner sync-interlock motor model 1510 to allow us to run a sound track for film that may have not reached the release point stage, on a sound Dubber which is also equipped with the same type motor.

These mods in Para 2 are absolutely necessary for less critical applications.

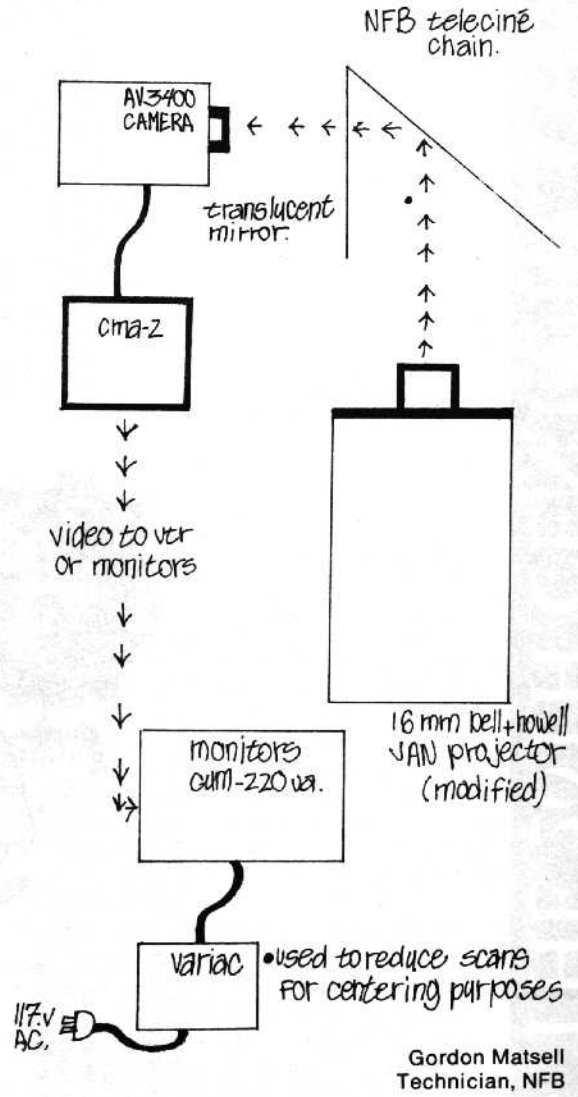
c) Lens. 2" focal length.

d) Light source 1000 watt lamp.

3) CVM-220VA or similar type monitor with some provision for reducing scans to determine reasonably exact centerway of Picture with the camera etc.

One of the simplest methods we have found is to simply insert a Variac in the A.C. line to lower the voltage to the monitor, which in turn reduces both scans as well as the brightness to some extent.

4) Mirror assembly consists of a 2" by 3" mirror hinged with a translucent screen placed in such a way to direct the picture from the Projector to the camera for best results.



Gordon Matsell
Technician, NFB

CABLE & ½"

Half-inch tape is easily transmitted on standard cable equipment. It is simply a matter of patching coaxial cable directly from the 3600 into the transmission set-up. In a series of tests conducted by the government in Winnipeg, half-inch was sometimes found to be superior in technical quality to one inch.

The major drawback to ½ inch productions is that edits are not good enough to be transmitted. The technique of editing onto a 3400 (described elsewhere on this page) will still mean that 20% of edits show some instability, and any breakdown gets exaggerated when it is transmitted. The only solution at present is to edit on 1 inch equipment, although it is possible that a modified 3650, or Panasonic, might get around the editing problem.

In other words, straight ½" footage can be easily transmitted by cable, but ½ inch edits are generally unacceptable.