



## TECHNICAL NOTES

### • IMAGE •

#### Shooting/editing

Scenes in the USA were shot with the Sony F900 CineAlta, Panavised HD camera, Canon and Panavision zoom lenses on HDCAM tape 1080/24P.

These HDCAM tapes were transferred to Betacam SP at FOTOKEM and digitized into the Mac Avid Xpress Pro system (a G5 PowerPC) at 23.98 fps

Scenes in The Netherlands were shot with the Panasonic HVX200 P2 camera with a Leica Dicomar 13x zoom lens in full 1080i/60 format (with 1080/24P format embedded), using 2x 8GB and 1x 4GB, P2-cards. The clips were off-loaded to an Apple G4 (via Card Bus - PCMCIA slot) and/or via the Panasonic P2 store (USB) into a MacBook Pro.

From there the clips were transferred to 2 LaCie 500GB external hard drives (and cloned for back up/protection to 2 other LaCie 500GB hard drives)

At that time Avid had not yet the P2 files support and to be able to cut the Dutch scenes with the earlier USA scenes we had to import the P2 files into FCP 5.1.4 to get full DVCPRO HD QuickTime 1080/24P (Using Cinema tools/ reversed telecine) and then transfer the new files as full 1080/24P DVCPRO HD QuickTime files to a LaCie 1 TB external hard drive.

Then we recorded the QuickTime files to HDCAM tapes 1080/24P (at the facility PAIR OF HANDS) for an easy on-line later and down converted the HDCAM tapes to Betacam SP for digitizing into our Avid.

#### Footage used

The shooting ratio was 1:42		
USA (Los Angeles-New York)	50 HDCAM tapes	41.5 hours
The Netherlands	27 HDCAM (from P-2)	22.5 hours
Archival (From 4:3 PAL/Digi-Betacam)	8 HDCAM	6 hours
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		70 hours
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### Archival

Most archival stock material was acquired on Digi-betacam (90% Pall) and converted to HDCAM (4:3 format). Than down converted to Betacam SP (NTSC) for off-line editing in our Avid.

Most archival stills were scanned at high-rez (300dpi/2000-3000 pixels) and according to the Avid EDL list inserted in the time-line during On-Line editing at PAIR OF HANDS

### On-Line

The archival footage, used in the final cut, was first reframed from 4:3 to16:9 during a separate on-line session.

The final on-line was done at PAIR OF HANDS with Thom Whitehead.

The master is on D5, 1080/24P with 5.1 Dolby surround sound.

### Color Timing

At FOTOKEM on DaVinci with timer Greg Kautz over 2 1/2 nights.

### Film-out

At FOTOKEM on an Arri Laser scanner from the D5 master in 5 reels and printed to Kodak Vision Color print stock 2383, color timed by Jim Williams

### Running time: 94 min

**Theo Van de Sande ASC**

Cinematographer/Producer

[www.stealapencil.com](http://www.stealapencil.com)

## • AUDIO •

### Preparation

This was an interesting project from the standpoint of preparation, as it was shot in 2 different HD formats...SONY HD CAM and Panasonic P2. Unfortunately, the audio used in the picture edit was pulled from Beta SP or DV copies of the field recordings, so a traditional EDL type assembly needed to be performed to ingest and format all (4) channels of audio. This was further complicated by the fact that since AVID had not yet implemented support for the P2 format, the picture editor had ingested the material into Apple Final Cut Pro, then output onto SONY HDCAM in order to get the material into the AVID. This rendered the original P2 files useless to the assembly process, so here is how we proceeded:

The picture editor sent us all the HD CAM tapes and the final AVID bin. We then got some help from our friends over at Mission Control (one of the top post houses here in Portland) where they assembled only the sound from the HD CAM tapes. They then exported the assembled bin as an OMF file, which we were able to import into our WaveFrame 7 workstations.

We had also received an OMF of the offline edit from the picture editor, so we were able to pull needed temp FX, archival audio and any dialog or sync sound that was missing from the assembly. Finally, we were ready to begin!

### Sync / Dialog Edit.

The sync/dialog edit went smoothly from that point on except for a few trouble spots in the film, most notably the "Matzoth" scene, where Ina and her daughter converse in the kitchen while spreading butter on Matzos (OY! So noisy!) and the "Westerbork" scene where Jaap talks to a group of kids during a sunny day which sounds like a hurricane. We had worked these two scenes for an earlier temp mix, and in the end, we used most of that work in the final mix as well, however, Michele had recorded some faux "ADR" of Jaap during a recent trip to New York to try and fix the Westerbork scene, and Matt Meyer (our dialog editor and mixer) did a fantastic job of weaving it in and out to minimize the distortion caused by the extreme wind conditions at the shoot on that day.

## Sound Design

Sound Design was challenging, as most of what required sweetening was archival footage. Putting sound on archival film and still photomontages is both necessary and dangerous. It is important not to be too obvious, or to draw attention to the sound, and equally important for it to be there and be authentic. It was very helpful to work with Michele, as she clearly had ideas about what scenes needed sound, and how much or (how little) we could get away with. Lucky for us, we had just finished sound design for an interpretive tour of a WWII air museum in Seattle, so we had a great collection of authentic sounds for the battle scenes. More challenging though, were the archival scenes that depicted everyday activities...bicycles, people on the streets, life in the camps and so on. We had to find the right sounds, and although we had a small Foley budget, we had to cover most of the film using cut effects from our library and others.

## Music

The music came to us from Joseph's ProTools setup mostly in OMF format, however there were several music changes and adds which we downloaded from his FTP site, then imported into the WaveFrame and laid in wild. The music came formatted as multiple stereo stems (up to 8 channels). We also did a bunch of music editing "on the fly" during the mix...that was fun.

## Mix

When it came mixing time, our setup was as follows:

Dialog and Voiceovers (12 Tracks) on one WaveFrame 7 workstation, interfaced to a Yamaha 02R mixer via ADAT light pipe.

SFX, Music and Foley (32 Tracks) on another WaveFrame workstation, interfaced to a Tascam DM3200 via ADAT light pipe and TDIF.

The Master recorder was a Tascam MX2424 onto which we recorded (3) sets of 5.1 surround stems. The stems were then routed back to a Tascam DM24 mixer feeding a Tascam DM7.1 surround monitor matrix, enabling us to check mono and stereo as we mixed. We monitored on Genelec 5.1 system for surround, and checked down mixes on a set of Yamaha NS10s.

When we were finished, we imported the stems to the WaveFrame, combined them to a 6 channel mix, then sent them as AIF files to Thom Whitehead, who laid them back to the master tape via AVID Adrenalin.

We also sent the files to Robert Berke Sound in San Francisco who did the LTRT encoding for us...those files also went to Thom.

The mix translated very well from our small mix room to the theater. The dialogs are crisp and clear, the FX are startling when necessary and subtle as well, and the music is rich and supportive. Enjoy.

**Michael Bard C.A.S.**

Sound Designer and Supervisor

[www.studiobard.com](http://www.studiobard.com)

Score

The Score was recorded on Pro Tools HD3 at Simple Music Productions in San Gabriel, CA.

Resolution was 24 bit at 96 kHz sampling rate using Digidesign's Pro Tools 7.1. Woodwinds were tracked with a prototype condenser mic built by Dave Royer. Piano and solo violin overdubs were tracked at Clear Lake Audio, Burbank, CA. Score was mastered using IK Multimedia T-Racks software.

The score was performed by live players predominantly, with judicious MIDI support performed by Joseph Julian Gonzalez in Mark of the Unicorn's Digital Performer 5 running in sync with ProTools.

**Joseph Julian Gonzalez**

Composer

[www.simplemusicproductions.com](http://www.simplemusicproductions.com)