

## *God Wears My Underwear*

When production began on this film in 1998, digital production was still a virtual unknown. Independent filmmakers either used analog video formats such as 3/4", Betacam, VHS, 8mm (including the high resolution enhancements) or traditional film gauges - 8, 16, 35mm. Festivals distinguished themselves by being either "video" or "film". Digital mastering was in the experimental stages for a very few high end studio productions.

The DV tape family (miniDV, DVCAM, DVCPRO) changed the way we make movies. Today's generation of digital video products based on HD and HDV formats put virtually the same tools of the big budget movies in the hands of the indie filmmaker. Budget constraints may limit us to \$1,000 lenses on \$3,000 camcorders, but the images captured are widescreen with up to 2k frames - not so different from a super 16 or 35mm image scan. Film still has the edge in dynamic range, but "good enough" now refers to video capture. Micro-mirror video projectors have brought the cost of video projection down to a reasonable level, and the major studios are packaging features for theatrical release in digital formats to bring down the costs of distribution.

As independent filmmakers embarked on a project that would have daunted Hollywood only a few decades ago, we embraced the possibilities of these newly affordable tools. Having just completed an 8 minute short mastered on BetaSP making extensive use of bluescreening, compositing and animated characters, we thought we knew the challenges ahead. We were wrong by an order of magnitude. Digital capture on DV tape gave us sharper source images, but the 4:1:1 compression made it more difficult to pull a good bluescreen mask, so we were forced to rotoscope or upgrade to higher end post production tools to compensate. Our production value expectations kept rising as newly released feature films set ever higher standards for clean visual effects, and we found ourselves revisiting effects segments we had previously completed, constantly buying more hardware and upgrading software. Some scenes hit the cutting room floor when it became clear they were not central enough to the story to justify the additional work.

Mixing archival film footage with our story created other problems. We had to compensate for varying degrees of flicker, film grain, inconsistent development, color fading and degradation resulting from decades of storage. Motion effects were used to bring still images alive.

Legal considerations also demanded considerable post production time. Archival materials rights research and permissions took over a year. Second unit shots often required removal of corporate logos or blurs of recognizable features of bystanders.

In a large production, many effects artists split the workload to shorten the post production cycle. Work is often divided between several effects studios, each of whom may specialize in a particular task. Large teams are assigned to complete particularly complex shots and insure that everything looks believable. Render wranglers keep the server farm operational. Large quantities of high end computer equipment and many terabytes of drive space are required to keep the work moving smoothly. Everyone works 40+ hours a week on the project, so the film is ready to release in only a few months.

# Visual Effects Artist's Statement

Robin McCain

This film had one visual effects artist, occasionally assisted by the director or the editor. This was both a blessing and a curse. The good part is that the work is the product of a small team, and thus maintains a consistent “look”. The bad part is that it took so long. We also had regular jobs that demanded much of our time. The amazing part isn't that it took 8 years, but that it exists at all!

Visual Effects include:

1. Wire and rig removals
2. Matte Paintings
3. Color & contrast correction
4. Film grain texturing
5. Logo removals
6. Pan and Zoom on still photos
7. 3D Animated characters composited with live action footage
8. Live action footage composited on historical footage

Production footage mastered on NTSC-SD (miniDV) Color 4:3 using a Canon XL-1 camcorder.

## Cinematiks - San Francisco facility

Tools used in post production include:

Compositing - Eyeon Digital Fusion with Krokodove, Cult Effects and Boris plug-ins

Rotoscoping - Puffin Commotion

Editing & video capture – Harris/Leitch/DPS Velocity

3D graphics - Curious Labs Poser, Newtek Lightwave 3D, Hash Animation Master

2D graphics - Adobe Photoshop, Illustrator, and Pagemaker

Operating systems - Microsoft Windows 2000 Professional and SuSE Linux

Sound - Sony Sound Forge and Acid, Adobe Audition

Web – Macromedia Dreamweaver

Computers - custom built workstations (dual processor Pentium III, IV, Xeon and AthlonMP)

Video VFS Server – Harris/Leitch/DPS Reality

Video Tape Decks - Sony

## Cinematiks - Los Angeles facility

Tools used in post production include:

Editing - Avid XpressDV Pro

Operating system - Microsoft Windows XP Professional

Sound - Digidesign Pro Tools

Computers - Laird Telemedia

Video Tape Decks - Sony