HD and 7D:
A still photographer's experience

DFS DOUGLAS FOULDS STUDIOS

In this presentation

- About me
- Why HD? Why now?
- Technology: gear, camera settings, audio, lenses
- Technique: shooting, sound, post-production
- Final thoughts and resources

DFS DOUGLAS FOULDS STUDIOS

About me

- Owner and principal photographer of Douglas Foulds Studios, Inc.
- Small team of second shooters (all of whom have their own photography businesses)
- Most of my business comes from a network of event and wedding planners, venue managers, and referrals from past clients

DFS DOUGLAS FOULDS STUDIOS

Disclaimers

- I am not a film maker by training.
- Much of this presentation applies to DSLR HD capture generally.

DFS DOUGLAS FOULDS STUDIOS

In this presentation

- About me
- Why HD? Why now?
- Technology: gear, camera settings, audio, lenses
- Technique: shooting, sound, post-production
- Final thoughts and resources

DFS DOUGLAS FOULDS STUDIOS

Why HD? Why now?

- HD-capable DSLRs are the future of independent film making (small format, high quality, beautiful DOF)
- Fusion of media formats is the next challenge for both still photographers and film makers
- Who will make the transition to the other format?
  - Wedding photographers have the advantage in that we're still 'central' to the wedding experience and we talk to clients earlier, while videography suffers from being an "add-on". We can upsell!
  - However, filming is very different from shooting stills, both in terms of technique and envisioning the final product. If you are an accomplished album designer, you might find the transition to film a little easier.

DFS DOUGLAS FOULDS STUDIOS

Technology marches on

- This presentation is based on my experience with the Canon 7D.
- Why the 7D?
  - Released 4Q 2009
  - 18 MP, 1.6x FOV, full 1080p at true 24 or 30 FPS, ISO 12800, external mic input, manual video controls
  - 1D Mark IV but wasn't available for New Years' Eve wedding I was asked to film . . . but it's on order ☺
- Canon has announced the Rebel T2i . . .
  - 18 MP, 1.6x FOV, full 1080p at true 24 or 30 FPS, ISO 12800, external microphone input . . . etc. etc.
  - Half the cost of a 7D

DFS DOUGLAS FOULDS STUDIOS

In this presentation

- About me
- Why HD? Why now?
- Technology: gear, camera settings, audio, lenses
- Technique: shooting, sound, post-production
- Final thoughts and resources

DFS DOUGLAS FOULDS STUDIOS

My DSLR HD kit

- 7D (duh!)
- Canon 24mm f/1.4L (~40mm equivalent . . . Yay!)
- 4 x 32GB Acumem Pro CF cards
  - Max 4GB (~12 minutes) per clip; FAT32 file format limitation
  - Camera has a handy buffer meter that will tell you if your card or camera is having trouble keeping up with the data flow
- Redrock Micro eyeSpy DSLR shoot rig with follow-focus
- Zacuto Z-finder magnifying loupe
- H4N Zoom audio recorder with 4GB SD card
- Manfrotto tripod and 332RC ball head
- Lowell ID video light; LED panel
- Spare battery and charger (I'm not using a battery grip)

DFS DOUGLAS FOULDS STUDIOS

Camera setup

- Turn down saturation, contrast and especially sharpness
  - Save these settings as a User Defined Picture Style
- Turn on highlight tone priority
  - Controlled by custom function
  - With it turned on, highlights won't be as clipped
  - With it turned on, lowest ISO is 200
- ISO 200 or 320, or 640
  - Higher than 640 might be a too noisy
  - Never set to Auto: we want to control ISO and, more importantly, noise
- 24 FPS (actually 23.976 FPS), full 1080p (1920x1080)
  - "Filmic" or cinema look: dreamy, pleasing softness
  - Consider 60 FPS and 1/125s for high-speed action or for creating slow motion scenes
- Auto white balance is OK, although if you have a consistent lighting environment by all means use a pre-set or custom white balance
- Shoot on Manual or save parameters as a custom setting on the Mode dial (three custom modes can be set).
  My settings are . . .
  1. 24 FPS + 1/50s + ISO 320 (for daylight; default)
  2. 24 FPS + 1/50s + ISO 640 (for low light)
  3. 60 FPS + 1/125s + ISO 640 (for high speed or slow motion)

DFS DOUGLAS FOULDS STUDIOS

Frame rates

- True 24 (23.976) and 30 (29.97) FPS rates are a huge improvement over 5D / 5D MkII, although new 5D firmware is coming
- For a “cinema” look, shoot at 24 FPS with a shutter speed of 1/50s
- For beautiful slow motion, shoot 60 FPS (720p) at 1/125s, then drop the frame rate to 24 FPS in post-production

DFS DOUGLAS FOULDS STUDIOS

Shutter speed: fix it and forget it

- 180 degree rule must be respected
  - On film cameras, the shutter is a physical wheel that rotates in front of the film
  - Most film cameras have a ½ wheel (hence 180 degrees)
  - If shooting at 24 frames per second, that ½ shutter wheel has to spin twice in order to expose the whole frame, so the shutter speed has to be effectively 2x the frame rate
    - To get the pleasing sense of motion and fluidity of the “film look” at 24 FPS, the shutter speed has to be 1/48s
    - At 60 FPS, the frame rate should be 1/120s
    - Canon didn’t respect 180 degree rule—maybe in a firmware fix?
  - Bottom line: for 24p, set the shutter at 1/50 and leave it there; for 60 FPS, it’s 1/125s
  - Adjust ISO and aperture to control exposure, or use things called “lights” or “filters” to add or subtract light

DFS DOUGLAS FOULDS STUDIOS

Lenses and focusing

- Fast primes are probably the way to go, although you can certainly use zooms
- Personally, 24mm f/1.4L is my preference
  - With a 1.6x FOV crop, this results in a focal length of just under 40mm – just about perfect!
  - Used a 50 f/1.2L as well, but useful only if you want to tightly frame a scene
- Autofocus does not work during filming, so get used to manually focusing
  - Magnifying loupe like Zacuto Z-finder or Hoodman series is strongly recommended—without it, critical focusing is hard
  - Follow-focus ring on a DSLR shoot rig is excellent way to achieve focus with loupe, especially at shallow DOF

Heat

- Shooting in video mode generates a lot of heat internally; too much and the image quality can be seriously affected
  - 7D has visual warning indicators when temperature is getting too hot
  - Some evidence suggests this is a bigger problem at 60 FPS
  - Solution: shorter clips and turn camera off when not actually filming

Audio

- Audio is critical—and tricky. Get an external microphone for better sound and to reduce noise from handling the camera or IS lens mechanisms
  - Shotgun microphones (Rode video mics) or recorders (Zoom H4N) are hot-shoe mountable and can be plugged into the 7D microphone input jack.
    - Consider a dual / remote audio recording system and sync the audio in post production. This works well for vows (lav microphones) and speeches (audio recorder like H4N Zoom).
  - Still, clean audio is a challenge
    - Background noise, lack of audio level controls in camera, etc.
    - Consider lessening dependency on getting clean live audio by setting video clips to music, using only selected live audio tracks to drive the narrative.
    - Future Magic Lantern firmware might add manual audio gain control

In this presentation

- About me
- Why HD? Why now?
- Technology: gear, camera settings, audio, lenses
- Technique: shooting, sound, post-production
- Final thoughts and resources

DFS DOUGLAS FOULDS STUDIOS

Video and photo? Uh . . ..

- Shoot it *or* film it. Don't try to do both, even if your gear handles both formats. Trust me.
  - How you "see" a wedding is very different depending on how you're recording it. Get in to that groove and stay there.
  - The 7D does support faster switching between film and still shooting than the 5D, but your brain is likely not able to make that same transition repeatedly.

DFS DOUGLAS FOULDS STUDIOS

Shooting

- Shoot short clips (5-15 seconds)
  - The exception might be vows and speeches; in this case, pay attention to the 12 minute (4GB) clip limit
- Get a steadycam rig—and practice using it
  - Redrock Micro and Cinevate make “DSLR shoot rigs” that work well and have lots of accessories, but they are pricey
  - Glidecam and others make handheld or wearable steadycam solutions at various price points
    - I’ve found that Glidecam without the SmoothShooter arm and vest not very practical with the 7D and magnifying loupe
- Use a tripod with a panning head for recording static scenes (unless you’re going for the documentary look)

Rolling shutter

- Avoid quick horizontal panning or fast-moving subjects. If you do, you may see the rolling shutter effect.
  - CMOS records the frame from top to bottom, row by row, not all at once
  - At 24 FPS, this means the bottom row of a single frame will be recorded 1/24s after the top row of that same single frame
  - Rapid panning may result in bottom part of frame being slightly offset compared to top half during playback
  - Solution: Increase the framerate or avoid rapid horizontal panning

Post production

- Enormous time commitment vs. generic RAW workflow
  - 500+ short clips from a 12-hour event; 80+ GB of data
- Quad core workstations with lots of RAM and fast disks are recommended
- 64-bit OS, especially on Windows
  - Adobe Premiere Pro (Windows or Mac)
  - Final Cut Pro (Mac)
  - QuickTime Pro (Windows or Mac)
- *Tip: Convert native 7D MOV format to Cineform AVI or MOV format for editing: much faster and smoother than using native MOV from camera*

DFS DOUGLAS FOULDS STUDIOS

In this presentation

- About me
- Why HD? Why now?
- Technology: gear, camera settings, audio, lenses
- Technique: shooting, sound, post-production
- Final thoughts and resources

DFS DOUGLAS FOULDS STUDIOS

Final thoughts

- Jumping into film making is not for the faint of heart
  - New techniques, new technologies will make you feel stupid at first. Accept it. Embrace your stupidity!
  - Invest the time and effort to embrace all aspects of film making.
  - The gear may be familiar, but the technique is alien.
- Significant new revenue opportunity for photographers willing to learn the craft
- Ultra HD (4320p) and 3D are coming ☺

DFS DOUGLAS FOULDS STUDIOS

Resources

- Canon 7D for HD Forum at DVinfo.net
  Great community resource.
  http://www.dvinfo.net/forum/canon-eos-7d-hd/

- Eyepatch Productions Youtube channel
  Series of short video blog entries on filming with the 7D.
  http://www.youtube.com/user/eyepatchentertainmen

- EventDV.net
  For general event video resources.
  http://www.eventdv.net/

- Canon Digital Learning Center
  Lots of good information straight from the source.
  http://www.usa.canon.com/dlc/controller?act=GetArticleAct&articleID=3050

DFS DOUGLAS FOULDS STUDIOS

Questions?

- doug@foulds.ca
- 416-777-0303 or 1-866-507-0303
- douglasfouldsstudios.blogspot.com

DFS DOUGLAS FOULDS STUDIOS