Notes for DFD Proposed Video Production Unit

Dear Shannon ,

Based on our conversation this morning, here in a fairly concise form, is what I would do/buy if I were attempting to put together the kind of unit you described.

First though, for your colleagues benefit, a few words about myself so they can understand the background behind my recommendations. (The following is cribbed from my personal demo website: www.penztv.com/demo where you can find links to some of my more recent work.)

I am an Edward R. Murrow, Texas Associated Press, two time Telly, and Emmy award winning editor, with additional awards from the Dallas Bar Association (Phillbin Awd.) and the Texas State Bar (Silver Gavel Awd.). I am the Editor of Special Projects and Investigations for KTVT/CBS-11 and KTXA/TXA-21 in the Dallas/Ft. Worth market and speak both Final Cut and Avid fluently. I hold a Graduate Marketing Certificate from the Cox School of Business at SMU, and a BA in Theater/RTVF from the University of North Texas, and have also studied at the University of London. As an editor and producer I have been responsible for several hundred hours of advertising, education, entertainment and news in my fourteen years in television.

I have a home office with the identical capabilities of my edit suite at KTVT, and the following recommendations are based on what I would do were I setting up an edit suite from scratch. (Note: with all prices below, these are list prices. DFD or the City of Dallas will likely have preferred vendor and/or governmental discounts, which will reduce the costs.)

1. Edit
    a. Platform: My recommendation is for a Apple Mac based edit suite
        i. Pros:
            1. Stability of platform
            2. Ease of introduction to new operators
            3. Simplicity of options for video editing
            4. Easier learning curve than vs. PC Based editing platform
        ii. Cons:
            1. Generally more expensive than equivalent PC
            2. Resistance from or unsupportable by current DFD/City of Dallas Information Technology department

b. Form factor: Apple offers three basic machines, all with basically the same capabilities, but differing prices and performance levels.
    i. Laptop: Offers the greatest flexibility of movement between work spaces, but tends to be more expensive and offer reduced storage capacity than desktop based machines.
        1. Mac Book: Not recommended for video editing, as they lack the generally required 'horsepower' for video editing.
        2. Mac Book Air: Not recommended for the same reasons as listed above.
        3. Mac Book Pro: Recommended 'flavor' of laptop.
            a. Significant technical capability
            b. Three sizes:
                i. 13": Not optimal for editing
                    1. Reduced 'footprint' of the screen makes editing difficult.
                    2. Least expensive of laptop options.
                    3. Starts at $ 1199
                ii. 15": Same note as above.
                    1. Slightly greater screen size
                    2. Slightly greater performance.
                    3. Starts at $ 1799
                iii. 17": Most expensive laptop model
                    1. Best performance.
                    2. Greatest screen size, highly beneficial for editing
                    3. Starts at $ 2299
    ii. I-Mac:
        1. While lighter duty than the Mac Pro listed below, they offer greater screen size than the laptops listed above, with approximately the same performance.
        2. By my understanding these are NOT upgradable after purchase, so must be 'fully stocked' with any upgrades when bought.
            a. 21" starts at $1199
            b. 27" starts at $ 1699
        3. These models are used by my station in the web department, and have sufficient capability for average day-to-day edit work. However they will require expanded external storage to allow for any but the simplest of projects.
    iii. Mac Pro (For your purposes, these are probably overkill, but are included for comparison. This is the box only, no monitor, speakers or keyboard/mouse included. These are purchased

by professional production houses, television stations [I've got one here at work] and movie studios.)
    1. Quad core starts at $2499
    2. 8 core starts at $3499
    3. 12 core starts at $4999
iv. Whatever variety of computer is purchased, it is STRONGLY recommended that the baseline memory be expanded, and additional external storage be purchased (or in the case of the Mac Pro an additional internal drive be added). Video (particularly HD Video) is storage hungry, and even the smallest project can take up a huge amount of disk space.
v. Basic important things to consider in computer purchase
    1. Number of 'cores' and processor speed in the CPU.
    2. Internal memory (2 gigs is the minimum configuration on all models, and you are STRONGLY advised to upgrade to a minimum of 4 gigs of memory for any kind of video work.)
    3. Storage: Video work (especially HD) takes up an immense amount of storage space. All but the most basic of projects will take up more space than the base line hard drives in each model listed above. However, external drives are relatively inexpensive, and can be purchased at most computer stores.
        a. Current pricing: approximately $100 per 1.5 terabyte external drive. Prices can vary widely by manufacturer.

c. Edit Suite:
    i. For simple video editing, I-Movie and I-DVD come free with each new Mac sold, and they contain some basic tools that will allow for content generation
        1. Cost: Current edition free with each Mac sold
        2. It's ok for basic edits, but lacks any kind of significant 'higher level' capabilities.
        3. But it's free.
    ii. Stepping up a level, the current Final Cut Pro Suite (v3) offers a complete, interconnected collection of all the tools necessary to craft a high quality product.
    iii. Final Cut has quickly become the tool of choice in studios across the country, based on its ease of use, extensive feature set, stability, and significant price advantage over similar products. While prices of the competition have dropped in recent years due to pressure from Apples entry into the market, Final Cut still remains the 'go to' tool for the small shop.
        1. Apple.com list price: $ 999.00

2. B&H List price for Final Cut Studio 3 $ 794.95
3. Amazon.com list price: $ 798.00

2. Capture: There are a wide variety of HD video cameras currently available with a dizzying array of features. My personal preference is for Canon's brand of video camera, because of my extensive personal experience with their equipment, but Sony and Panasonic make roughly comparable equipment with varying price points.
    a. B&H Photo: www.bhphotovideo.com (based in Manhattan, but with an extensive web presence) is my vendor of choice. DFD or the City of Dallas may have an alternate preferred vendor, but my reference points will be B&H's.
    b. My recommendation: Canon XA10 HD Professional Camcorder (link: http://www.bhphotovideo.com/c/product/749467-REG/Canon_4922B002_XA10_HD_Professional_Camcorder.html
        i. The newest camera from Canon on the market, it offers significant capability at a highly attractive price point. Base line price $ 1999.
        ii. Just announced on January 5th, Canon projects delivery beginning end of March 2011.
        iii. While the lens is only 10x (my personal camera is 20x), this is the camera I would purchase if getting one today. It offers a number of highly attractive features, including dual phantom powered XLR inputs, 64 gigs worth of internal (flash) storage in addition to two SD slots for additional recording capability.
        iv. It has enough features to allow a skilled user the room to maneuver, while retaining the auto features the beginner needs to produce a worthwhile product.
    c. If there is a concern about Canon's projected delivery date for the XA10, another suggestion is the Canon XF100 HD Professional Camcorder. http://www.bhphotovideo.com/c/product/733533-REG/Canon_4888B001_XF100_HD_Professional_Camcorder.html
        i. This camera is of roughly the same generation with similar capabilities, but retails for $2999, 1K more than the XA10, but is currently available.
    d. Price being a significant issue, the 'lowball' way to do the job is to purchase some variety of 'FLIP' camera and work within its limitations (which are significant).
        i. The biggest drawback is the quality of the lens. An infinite depth of field, no optical zoom capacity and limited digital zoom make the FLIP variety of camera good for 'right in the moment' capture of family barbecues and to have on hand for unexpected breaking news, but really any modern smart phone has the same capabilities, and the added feature of being usable as a phone.
        ii. While the current crop of FLIP recorders have their uses (and I've killed one and am now abusing a second), they do not

produce what I consider to be a professional quality image, and should only be considered for the kind of scenarios mentioned above.

e. Whatever camera is purchased, a mandatory consideration is Sound.
    i. On camera microphones, regardless of manufacturer, make or model, all suffer the same limitation. They record EVERYTHING, not just the speaker. Noise from the camera, cars honking outside, planes flying overhead, the rumble of the photographers stomach, you name it. They are incapable of producing a professional quality sound except as a fall back when more specialized microphones fail.
    ii. Wireless (or wired) lavalier mics are the industry standard. Placed on the speaker with a signal run back to the camera will produce the kind of audio you will actually want to listen to.
    iii. The Shotgun mic/boom pole/audio mixer combination is what is used by higher level productions, including all major television programs and motion pictures, but add the complication of a required audio operator, additional equipment and additional expense. Probably nothing you want to get into.
    iv. Voice over microphone. For adding the narration that gives any production its 'punch'. A wide variety of mics exist, both XLR and USB powered. The Audio Technica 40-40 is my personal choice, and I have one both at work and at home. List $259 http://www.bhphotovideo.com/c/product/255469-REG/Audio_Technica_AT4040_AT4040_Studio_Microphone.html
        1. The mic requires the phantom power that the XA10's XLR jacks deliver, but you can also get an independent power supply for less than $100. One example:
        2. http://www.bhphotovideo.com/c/product/68083-REG/Audio_Technica_AT8801_AT8801_Single_Phantom_Power.html

3. Delivery/Playback: Several options exist for content delivery, but I'm sure your internal deliberations have already been much more extensive than my brief notes here.
    a. I-Pad: A little expensive, but can offer additional capabilities to officers in the field beyond video playback.
    b. Portable DVD Player/Viewer: Less expensive, but runs into the inherent difficulties with a physical storage/playback unit.
    c. DFD web site/ Youtube (or other video delivery site): No actual physical presence, but low cost secondary method for distribution, with potential wide ranging coverage. Unsuitable for use as a primary distribution method, as the target demographic is unlikely to have

web access, but extended families may be able to use as reinforcement to primary content delivery.

Hopefully all this information will be of help to you in the decision making process. I'll be happy to consult on whatever deliberations/purchase decisions/other needs you may have.

Yours,

Daniel

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