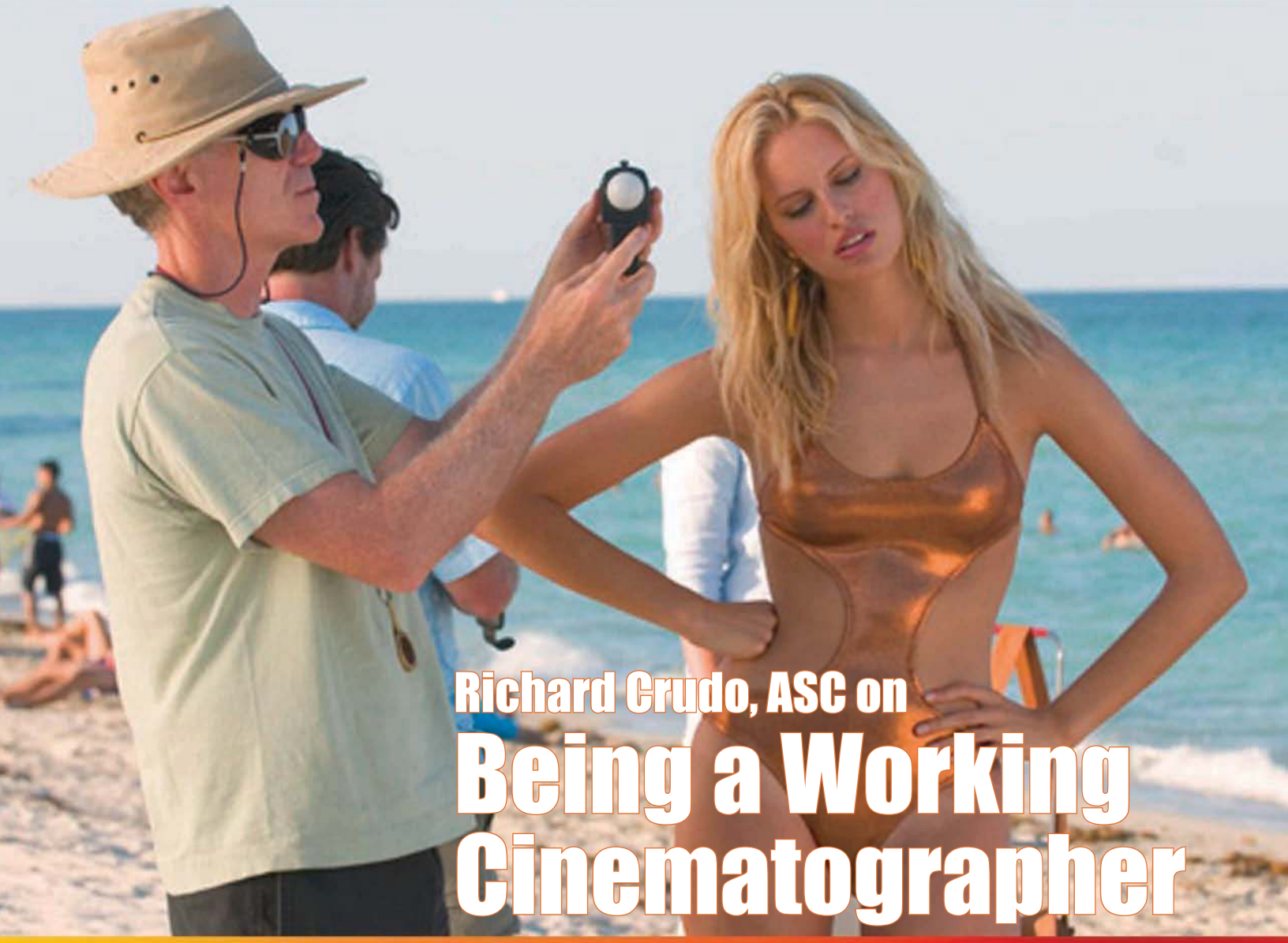
November 2007

studentfilmmakers

StudentFilmmakers.com The #1 Educational Resource for Film and Video Makers US$5.95



Richard Crudo, ASC on Being a Working Cinematographer



Tech Focus: HD

Turning SD Footage into HD Material

James Mangold's *3:10 to Yuma*

13 HD Camera Essentials

VFX through Color Enhancing Filters

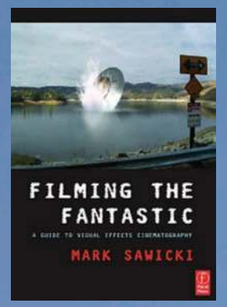
Shooting Multi-Camera Interviews

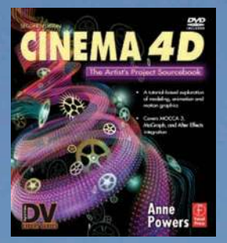
Pitching to Film Investors: Do's & Don'ts

You Never Stop Learning

Get up to 60% off at studentfilmmakers.com/store

the #1 Educational Resource for Film and Video Makers of all levels.
You don't have to be in school to get special rates here.
All film and video makers get the lowest prices for the newest books!





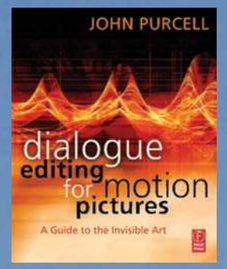
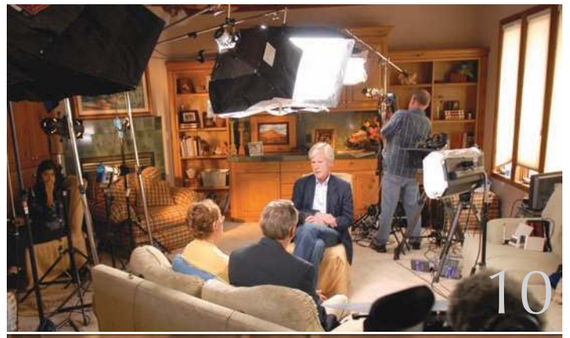


Photo by Lien-Chen Lin

Table of Contents November 2007









Tech Focus
6 13 Features to Look for in a Camera by Jon Firestone
9 10 Pros and 8 Cons of Shooting HDV by Leonard Guercio

Cinematography
10 Multiple Camera Interviews by Carl Filoreto
14 Visual Effects through Color Enhancing Filters by Ira Tiffen

Lighting
16 How to Recreate Candle Lighting by Saro Varjabedian

Filmmaker Spotlight
18 Richard Crudo, ASC on 'Being a Working Cinematographer' *World-Renowned DP Shares His Experiences, Insights, and Discusses the Changing Production Climate, including Digital Technology* by Jacqueline B. Frost

Commentary
36 James Mangold's New Film "3:10 to Yuma" - An Homage and Contemporary Classic by Dana Dorrity

Editing
40 Moving it Up: Turning Your SD Footage into HD Material by Julia Camenisch

Music & Sound
42 Six Important Steps for Prepping Your Mix by Bryant Falk

Directing
44 Successful Ways of Maintaining Good Health during a Film Shoot by David K. Irving

Film Business
48 What You Should Know About Copyright Infringement and Protecting Your Work by Myrl Schreibman
52 "Let's Do Lunch": 60 Minutes to Turn a Starving Filmmaker into an Investor's Darling by William F. Vartorella, Ph.D., C.B.C.

Networking
54 Filmmakers Networking Community This Month's Featured Networkers

On the Cover
Richard Crudo, ASC on the set of *My Sexiest Year.*



This is a very exciting and eventful month for the *StudentFilmmakers* Magazine staff. After returning from Denver, Colorado (check out VidExpo photos on studentfilmmakers.com), and back to New York City headquarters (to tend to back-to-back deadlines!), I'm very proud to present to you this excellent edition of *StudentFilmmakers* Magazine, which is being exhibited, and being handed out, at three key industry tradeshows this month.

Please visit ***StudentFilmmakers* Magazine's Booth #712** at **HD Expo in Burbank, California** on November 7th and 8th. Also, visit ***StudentFilmmakers* Magazine at Booth #230** at the annual **GV Expo 2007 in Washington, D.C.,** November 15th and 16th. Finally, drop by ***StudentFilmmakers* Magazine's Booth #2028** at **LDI 2007**, November 16th through 18th, in **Orlando, Florida**.

This special edition features articles focusing on topics including technology, cinematography, and film business. Read the in-depth and inspiring feature interview, "Richard Crudo, ASC on 'Being a Working Cinematographer'" on page 18. Mr. Crudo shares his experiences and insights, and discusses the changing production climate, including digital technology, and gives advice to student and aspiring filmmakers.

Are you trying to decide what kind of camera to rent or buy? Read the Tech Focus article, "13 Features to Look for in a Camera," (page 6) by Jon Firestone, who shares his tips and touches on HD camera essentials.

"'Let's Do Lunch': 60 Minutes to Turn a Starving Filmmaker into an Investor's Darling" (page 50), written by William F. Vartorella, Ph.D., C.B.C., details the do's and don'ts of pitching to film investors. The article includes checklists, advice, and a sample structure of the one-hour investor lunch and presentation cycle.

Be sure and read through the new Market Place classifieds for special offers and help with your project.

Good luck on your productions this season. Have a great and eventful month, and a very happy and healthy Thanksgiving.

Enjoy this excellent edition!

Truly,

Kim E. Welch
Publisher/Editor-in-Chief

studentfilmmakers
The # 1 Educational Resource for Film and Video Makers

Publisher / Editor-in-Chief Kim Edward Welch
Senior Editor Jody Michelle Solis

Contributing Writers
Thomas Ackerman, ASC, Anthony Q. Artis, Jeff Bellune, Adam Biddle, Julia Camenisch, Chris Cavallari, Mark Cheng, Michael Corbett, Vanessa Daniels, Keith Dearing, Todd Debreceni, Jeff Deel, Dana Dorrity, Paolo Dy, David E. Elkins, S.O.C., Bryant Falk, Carl Filoreto, Jon Firestone, Brian Flees, Jacqueline B. Frost, Daniel Gaucher, Fred Ginsburg C.A.S. Ph.D. MBKS, Mark Steven Grove, Leonard Guercio, Steve Holmes, David K. Irving, Larry Jaffee, Michael Karp, S.O.C., Sam Kauffmann, Michael Kent, Mark Kerins, Jake Lovell, Adam Matalon, Matthew Marshall, M. David Mullen, ASC, Stacey Parks, Lew Schatzer, Myrl A. Schreibman, Gregory Singer, Mary Ann Skweres, Glen Tickle, Ira Tiffen, Saro Varjabedian, William F. Vartorella, Ph.D., C.B.C., Kevin Zanit

Media Art Director Lien-Chen Lin

studentfilmmakers.com

Publisher / Editor-in-Chief Kim Edward Welch
Media Art Director Lien-Chen Lin

Advertising & Sponsorship Opportunities:
Kim E. Welch 212.255.5458
Online/Print Classifieds, Global Marketplace:
Jessica A. LeSure, 212.255.7190
Accounting Department: Gloria Calderon

Contact StudentFilmmakers
http://www.studentfilmmakers.com/contact.shtml
888.222.0652 (US Toll Free)
212.255.5454 (US and International) 212.255.7204 (Fax)

Subscriptions:
U.S., $24.95/year; Canada, Mexico, and all other foreign countries, $69.50/year.
To subscribe go to https://www.studentfilmmakers.com/store

For subscription, mailing address change and distribution inquiries, go to http://www.studentfilmmakers.com/contact.shtml

BPA WORLDWIDE

StudentFilmmakers, established in 2006, is published monthly in New York by StudentFilmmakers.com. Opinions are solely those of the authors. Letters, article queries, photos, movie stills, film submissions, and unsolicited manuscripts welcome, but returned only with SASE. Submissions are subject to editing for style, content, and to exclusive rights provisions in this publication. Advertising: Rate card upon request.

Copyright 2007 StudentFilmmakers.com (All rights reserved.)
Printed in the USA. Postmaster: Send address change to StudentFilmmakers, 1133 Broadway, Suite # 1503, New York, NY 10010.

Blackmagicdesign



Intensity Pro introduces professional HDMI and analog editing in HD and SD for $349



Intensity Pro is the only capture and playback card for Windows™ and Mac OS X™ with HDMI and analog connections. Intensity Pro allows you to upgrade to Hollywood production quality with uncompressed or compressed video capture and playback using large screen HDTVs.

Beyond the Limits of HDV

HDV's heavy compression and limited 1440 x 1080 resolution can cause problems with quality and editing. Intensity Pro eliminates these problems and lets you choose from uncompressed video, Online JPEG and Apple ProRes 422 for full 1920 x 1080 HDTV resolution. Now you can capture in 1080i HD, 720p HD or NTSC/PAL video.



Playback to your Big Screen HDTV

Use Intensity Pro's HDMI or analog output for incredible big screen video monitoring. Unlike FireWire™ based solutions, Intensity uses an uncompressed video connection direct to Final Cut Pro's real time effects renderer. No FireWire compression means all CPU processing is dedicated to more effects and video layers!



Connect to Anything!

Intensity Pro includes HDMI and component analog, NTSC/PAL and S-video connections in a low cost plug-in card. Capture from HDMI cameras, VHS and Video8 decks, gaming consoles, set-top boxes and more. Playback to large screen televisions and video projectors.

Microsoft Windows or Apple Mac OS X

Intensity Pro is fully compatible with both Adobe Premiere Pro on Windows™ and Apple Final Cut Pro on Mac OS X™, as well as Motion™, Color™, DVD Studio Pro™, After Effects™, Photoshop™, Encore DVD™, Combustion™, Fusion™ and many more.



Intensity Pro
$349

Learn more today at www.blackmagic-design.com

13 Features to Look for in a Camera

HD Camera Essentials

by Jon Firestone



There are a lot of cameras available today, but the vast majority of them don't fulfill the requirements I have as a filmmaker. Of course, price is usually the primary factor, and an ideal camera can be had for the right price. But for most of us with limited resources, when we are looking to buy a camera, the ideal camera that meets all of our wishes is well out of our price range. So from there, it comes down to which compromises to make. Ideally, a camera would have the following features:



1. High Definition or beyond
2. 3 Chip (however, new CMOS technology is changing this trend)
3. Professional Audio Inputs and Phantom Power
4. ND filters
5. Detachable lens
6. Manual controls
7. Easy access to manual controls
8. 24P mode
9. Larger image sensor size
10. Higher resolution image sensor
11. Assignable buttons
12. Zebra Stripes (adjustable level preferred)
13. Underscan capability

High definition to me is a no-brainer. The extra resolution goes a long way in making the image look better, and HD footage can even look better than native standard definition when down-converted. I have a hard time suggesting that anyone beginner or entry-level look at anything less than high definition cameras. The primary reason being that the costs are so similar, and a high definition camera gives you more room to grow into. It's a little like buying a pair of shoes a half size too big, knowing you'll grow into them over the next year or so. It also opens upon other opportunities for which the camera can be used.

In the past, in order to get a high quality camera, you needed to go with a 3 chip camera. Instead of using a single chip with either a red, green or blue filter over every pixel, splitting up the colors, 3 chip cameras use a prism with dichroic filters to split the light into 3 images – one green, one blue and one red – and has an image sensor for each color. Recently, this trend is changing though, especially with the advent of super high resolution chips on DSLR still cameras, which use a single very high resolution chip. Even high-end digital cinema cameras like the Red One and the Panavision Genesis have only one image sensor. But for the

► FULL 2/3-INCH 3CCD IMAGER ► SOLID-STATE RELIABILITY ► VARIABLE FRAME RATES ► MULTIPLE FORMATS

the beauty of the HPX500

Panasonic's new, full-size AG-HPX500 P2 HD camcorder does more than just capture incredibly detailed high definition images on ultra-reliable, solid-state memory cards. It offers the unique combination of high-end features never before offered in a camcorder in this price range, including production-quality 2/3" progressive CCDs, DVCPRO HD 4:2:2 quality, 32 HD/SD video formats, four independent audio channels, and variable frame rates for incredible quality and versatility.

The shoulder-mount HPX500 features four card slots and can record 64 minutes in DVCPRO HD, 128 minutes in DVCPRO50, and 276 minutes in DVCPRO on four 16-gigabyte P2 cards. Its 4:2:2 sampling rate and intra-frame encoding ensure exceptional quality pictures, while its interchangeable lens, 50/60-Hz selectability and low power consumption assure superb flexibility. And best of all, the HPX500 is backed by an industry-leading 5-year warranty*.

Learn more about the HPX500 at **www.panasonic.com/broadcast** or call **1.800.528.8601.**

3.5" LCD monitor at rear facilitates audio monitoring

P2HD when it counts

Panasonic ideas for life

*1 year regular, plus 4 years extended upon registration. © 2007 Panasonic Broadcast

most part, it is generally a sign of a better camera if it has 3 chips instead of one.

The professional audio inputs on the higher end cameras are one of the most desirable differences between the lower and higher end cameras. Since a lot of these projects will be recording audio to camera, because of lack of time-code sync capability on most of these cameras, and a simpler workflow, it's nice to have better built-in audio capabilities. Usually, if a camera has XLR jacks, it will also have Phantom power, which will power condenser mics like the shotgun mics used on most sets.

Higher end cameras usually have built-in ND filter wheels, which are great when shooting outdoors in daylight or under intense light. There are lots of ways to decrease the brightness of the image, including increasing shutter speed, adding Neutral Density Filters and reducing the aperture by closing down the iris. Both increasing the shutter speed and changing the aperture will have other effects on the image though. Closing the iris increases the depth of field. This can be handy at times, but most of these new cameras have small image sensors, giving them a lot of depth of field. One of the few ways to get a select focus on a subject with these cameras is to shoot with the lens wide open. In this situation, irising down is not an option. Increasing the shutter speed will also cut out light, but will decrease motion blur, and can cause other undesirable effects, such as flickering from some lights when not in sync with their cycle rate. ND's are handy in the fact that they cut down light without any of the other effects on the image. Having an ND filter wheel built into the cameras makes using ND's quick and easy.

Unfortunately, most affordable cameras do not have detachable lenses. While this makes the cameras more compact, and have greater automatic control, it severely restricts the camera in this area. One of my favorite things to do to increase the cinematic look of video is to use 35mm lenses. While there are adapters which allow you to attach 35mm lenses to some cameras that have permanently attached lenses, the process is less than refined, and not altogether pretty. Besides, you are forced to run the image through more glass, generally, losing light and image quality.

Ironically, the more professional a camera, the more manual the camera becomes. When looking at really high end cameras, there is generally no auto-focus, and all the controls from white balance and iris, to shutter speed are all easily accessible without going into menus. While auto functionality can be handy, cameras aren't always good at determining what it is you want them to do, or how. For this reason camera operators generally want to be able to have control over these things themselves and want easy access to these functions.

One of the other very sought after options for cinematic looking images is having a film-like frame rate. On video cameras this is 24P, meaning 24 frames per second, progressively scanned. While I won't get into detail on all the different methods that can be used to handle this, generally, I look for cameras that have a good quality 24p mode, or at least a 25p mode. There are some good post techniques for changing 25p to 24p.

I also look at the image sensor size. Generally, larger is better. Most small cameras have ¼" to 1/3" image sensors, whereas mid-range cameras sometimes have ½" sensors, and most high end cameras have 2/3" sensors. It is generally accepted that the most cinematic sensors are roughly the size of a super 35mm frame and will work with the industry standard 35mm film lenses. But these are only found on very high-end cameras such as the Panavision Genesis, and Red One cameras. The most obvious effect that a larger image sensor has is on the depth of field. Large image sensors create a narrower depth of field, allowing more selective focus.

I also look at the resolution of the image sensor. While a camera may be capable of shooting at 1080p, that doesn't mean it can actually produce an image with 1920x1080 resolution. Many of these cameras only have an actual resolution of one quarter to one half of that, and use pixel shifting and other technologies to boost resolution, making them resolve the clarity of an image much closer to 720p. Many companies aren't very forthcoming with this spec though, so this information is often hard to come by.

There are a number of other useful tools found on more professional cameras including, things like adjustable zebra modes, which show overexposures as zebra striped portions of the screen. Underscan, which shows the entire frame. Usually the image stretches slightly beyond the edges of the screen to avoid having black borders on the screen if it is slightly out of adjustment. This is also known as overscan. Underscan shows the entire image, not just what most TVs will see. Some cameras also have assignable buttons that allow the operator to assign commonly used functions to easily accessible buttons. Most of these features are only found on cameras aimed at a more professional crowd, but make operation much easier for the operator.

Jon Firestone developed and taught the 3D graphics program at the Colorado Film School and works as a freelance director and cinematographer when he is not pursuing his other passion as a Visual FX supervisor and Animator.



10 Pros and 8 Cons of Shooting HDV

What is the Trade-Off?

by Leonard Guercio

When JVC introduced their first HDV camera in 2004, it signaled a new era of affordable high definition imaging. Very soon afterwards, Sony and Canon rolled out their HDV cameras, firmly establishing the fledgling format in the exciting new world of HD production. To the low budget independent or student filmmaker, making HD movies was now no longer an aspired goal but a practical reality. And the fact that one could acquire these HD images on the same DV tape used for standard definition recording was nothing short of a major technological breakthrough.

However, as with many new tech solutions, there are also drawbacks as well as benefits to the HDV format. I'm reminded of the expression that goes: "You don't gain something without first having to give something up." If you know what that trade-off is and you agree to it, there is no problem. It's the not knowing that could lead to potential problems down the road. With this perspective in mind, let's take a look at some of the benefits and drawbacks of HDV.

HDV BENEFITS

1. HD camera for under $5K price point.
2. Cameras have many features of more expensive professional cameras.
3. 19 Mbps to 25 Mbps data rate.
4. Many HDV cameras have three 3-chip imagers.
5. 720p or 1080i lines of resolution.
6. XLR audio inputs.
7. Editing support on all major NLE's.
8. Relatively low cost videotapes are ideal for archiving.
9. Tapeless solutions also available like DVD, HDD or Flash memory.
10. Ideal for studio-controlled recordings like interviews, table top, etc.

HDV DRAWBACKS

1. Poor at handling scenes with rapidly changing details, thus causes video artifacts.
2. Interframe compression: only the first frame of up to 15 frames contains all info.
3. 4:2:0 color sampling makes for less color info.
4. Videotape drop-out can cause images to freeze briefly.
5. Limited ability to control depth-of-field.
6. Distinctive look of video except in 24p mode.
7. Cinema modes, in some cases, not very useful.
8. Rapid pans and tilts cause judder effect.

Any good craftsperson will tell you that you need to use the right tool for the right job. HDV is an excellent, low-cost HD solution that can produce excellent images in the proper situations. Ultimately, it's up to you to know when to use this special tool.

Leonard Guercio is an independent filmmaker and an adjunct film professor at Temple University in Philadelphia.

Multiple Camera Interviews

Basic Rules You Don't Want to Break

by Carl Filoreto

It can be as simple as two people sitting in a room talking to each other. It can become as complex as an interview between a correspondent and twelve members of a jury sitting together on a stage. Even if you're shooting in a true no frills documentary style, at some point you'll probably confront the challenge of shooting a two camera interview. Everyone has watched them. There's the correspondent or host talking to some folks in a beautifully lit room that's pleasing to the eye, and there's not a piece of video production equipment in sight. It looks effortless, but it can be rather difficult to accomplish.

A multiple camera interview, even in its most basic form, presents some interesting production problems. Many times I've stood in a room staring ahead blankly and scratching my head while pondering the best way to set up a two camera interview. It usually goes something like this:

I look to the left, the right, set up some chairs, rearrange the chairs, and discuss the possibilities with the other photographer. Then I look around the room some more, scope out another room as an alternative, and mutter soft obscenities. I consider my picks in this week's football pool, rearrange the chairs yet again, look at the situation from both camera angles, and talk to the other photographer again. I cast a wary glance at the growingly impatient producer, reevaluate my career choices, and then, hopefully make a command decision as to how the to set up the space for the interview.

So, you might ask, why are you losing so many brain cells over this decision? Well, there are a lot of factors to consider. And in an era of breaking or simply obliterating some long standing production principals, there are some basic rules that truly need to be observed.

First and foremost, **all the cameras need to be on the same side of the axis.** There are no reverse angles in this situation. Reversing the axis results in everyone being framed on the same side of the screen. The interviewer will, let's say, be framed screen left. If the axis is ignored, the person responding to the questions will also be framed on screen left and talking to the open space on the right. That's simply weird and wrong, and it won't work.

Next, **the background for the interviewee's shot should optimally convey something meaningful about that person.** Minimally, both shots should have pleasing backgrounds that aren't distracting but instead are complementary.

The complicating factor here is the shot that includes the person asking the questions. In most cases, this will be framed as an over the shoulder two shot.

Audio engineer Steve Dalton helps out by adjusting a background kicker light in this recent three camera interview set up. Dateline NBC correspondent Keith Morrison chats with interview subjects as the final preparations are made. Photo by Carl Filoreto.




User friendly design.


Functional design with tilt lock and friction control conveniently on the left.


Control counterbalance in four settings.

Perfection from all points of view.

Manfrotto invites you to discover the new 503HDV video head.
A head with revolutionary technical mechanisms, including the new Counterbalance System
that gives controlled balance in 4 positions and an illuminated bubble level for low light situations.
Finally, a head designed to work the way you do.
The 503HDV is perfection just waiting to be experienced.

Manfrotto

To locate a Manfrotto dealer with products on display and in stock go2 *www.bogenimaging.us*
Manfrotto US subsidiary: Bogen Imaging Inc. 201 818 9500 www.bogenimaging.us info@bogenimaging.com