

HD

The LowDown on High Definition: Debunking Myths Surrounding HD

High definition is coming of age. Although there have been growing pains along the way, the technology has grown out of its temperamental infancy and is fast approaching adolescence. Yet many content providers, broadcasters and consumers have been wary of embracing this youthful medium. Their caution often stems from misconceptions and myths surrounding HD.

Leading technology research firm IN-Stat/MDR estimates worldwide HDTV viewers at 4 million. The number is expected to skyrocket to 45 million by 2008. Consumers are increasingly craving the benefits of viewing high definition television. Broadcasters are satisfying such cravings by offering more and more programming in this format. It's estimated that close to 70 percent of US network primetime television is either filmed or broadcast in HD.

To encourage even more high def broadcasting, the FCC in the US has mandated all television stations provide digital signals by 2006. In May of that year, analog transmissions in the country will cease. It is expected that Canadian broadcasters will follow suit with many satellite providers already offering HD programming. The move is expected to have a trickle down effect – broadcast in digital to encourage producers to film in HD to persuade viewers to buy into high definition technology on the consumer level.

Feature film production continues to experience a high definition boom. Films, from big budget studio productions to the smallest of independent movies, are increasingly shot in an HD format. There is no doubt that HD is here and it's here to stay.

But there are still mysteries clouding the medium. Manufacturers continue to invest in high definition technology to iron out the bugs and bring costs down. They are also working to demystify persistent myths about HD tools and processes. From cost effectiveness and workflows to equipment, once you demystify the myths, HD is as clear as the picture it produces.

MYTH #1: HIGH DEFINITION “VERSUS” FILM

What is the visual difference between analog film and digital HD video? Many people explain the differences in similes. It's like black and white television versus colour, vinyl versus compact disc, Jell-O versus creme brulee. In reality, the comparison should be more like apples to oranges.

“HD and film are two very different mediums, with their own unique characteristics. They can never, and should never be equated or pitted against one another,” explains John Holosko, a successful Toronto-based director of photography (DP). He should know – throughout his career Holosko has relied upon analog technology while continuously experimenting with HD.

After studying film at Humber College, Holosko worked as production assistant and later cameraman on commercials and music videos. Now a successful DP, Holosko has lensed various features and television series using both analog and digital techniques. He came to rely upon Fujifilm's various motion picture films for their top-quality latitude, colour rendition and overall image-capturing ability. But his ear was never far from the ground of the emerging high definition technology.

“There are things about film that will never be duplicated in HD. There's no question. But there are also characteristics about HD that can be equally advantageous and desirable.” The two aren't mutually exclusive. They can co-exist.

A few years ago, such sentiment would have been decried as sacrilege to film traditionalists. When George Lucas revealed that Star Wars Episode II: Attack of the Clones would be filmed entirely in HD, many predicted the untimely death of film – the end of an illustrious history spanning Chaplin to Schwarzenegger. But some four years later, 35mm is alive and well.

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Festivals and theatres screen reels of films, shot on film. Small screen production is no exception. Series such as The Sopranos and Six Feet Under continue to enjoy success thanks to the unique lighting and image-capturing capacity of film.

But HD is slowly getting the respect that it too deserves. It creates a virtually flawless image with its high resolution and clarity. Some other attractive features include low stock cost, instant computerized playback and editing, high quality audio recording and long camera runs.

One common misperception about HD technology is that it can't handle outdoor scenes. This simply isn't the case. Robert Rodriguez' recent hit, *Once Upon a Time in Mexico* was shot entirely on HD tape. Despite the 90 plus degree heat on location in the Mexican desert, Rodriguez took the camera outside with stunning results. Other features that bust this outdoor myth include *The Fast Runner (Atanarjuat)*, *28 Days Later* and the upcoming Tom Cruise vehicle, *Collateral*.

There are also many unsung properties of HD. As Holosko explains, "While shooting a series called *Starhunter 2300* in HD, I learned several things about this technology. One (artistic) attribute not normally discussed is the tremendous under-exposure latitude it affords. It sees light differently."

With high definition, the DP can choose to underexpose the shot as a safety net for their 24 p HD images. Highlights will avoid being clipped and thus blown out. The DP can then achieve the necessary level of luminance in post production. The scene will also be noise-free resulting in a greater quantity of high-quality, detailed highlights.

HD can be treated to many of the same post processes as film such as colour correcting. Because it has such tremendous depth, you can pull up a lot of picture information from what would seem like too dark a setting. Once time consuming and expensive, these digital post processes are becoming cheaper and more common. But you still need what John Holosko calls "a juicy negative".

Even with HD, the quality of your tape is essential. "That's why I've relied on Fujifilm products," says Holosko. "(the Fujifilm) product has shown characteristics and reliability that is top quality. You can't argue with the award winning TV series that are being shot using Fujifilm products or the Academy Award winners who are using these products. Their videotape is by far the best".

Before beginning a new production, Holosko tests different tapes from various manufacturers to check for such vital characteristics as consistency and reliability. "Fujifilm has always been there. When it comes to videotape, I haven't found anything that exists that compares."

"Reliability, consistency and superb quality are everything to the business of visual creativity," explains Kelly Pulford, Senior Marketing Director, Magnetic and Motion Picture Film Products.

Since being introduced to the industry, Fujifilm HD331 HDCAM has earned a reputation for both consistency and reliability. A specially developed binder with strong adhesion and an optimized lubricant allow stable tape transport and high durability even when

editing. The HD331 models also features Fujifilm's unique Super Calendaring technology. This gives the magnetic layer an ultra-smooth surface to ensure stable head-to-tape contact, which results in a high C/N ratio and low error rate.

Another technical innovation from Fujifilm is the DP1001 DVCPRO HD. This videocassette is designed for use with the CVCPRO HD digital VTR systems. The tape utilizes ATOMM-II technology – a special coating process that allows for the creation of a very thin magnetic layer for high-density recording. Like the HD331, the results include high output, high C/N ratio and a low error rate. The DP 1001's strong base material also makes it very compatible with high-speed HD systems.

In addition to product improvements, Fujifilm is dedicated to the advancement of HD technology in the industry. "With Fujifilm, you get good support," states Holosko, "whether I'm shooting on HD tape or film, Fujifilm shows up on set. They personally call to ask if the product is performing well, if there are things that could be improved. They're in it for the long run."

With all of these advances, why are some cinematographers and DPs still reluctant to embrace the technology? People, even cutting-edge industry professionals, can be a little camera shy when it comes to change. Holosko likens it to the growth of the computer.

"Fifteen years ago, if you didn't learn about IBM DOS, you were left behind. But today, you don't even need to know how to write to run a computer. Five years ago HD wasn't where it is today. The treatment of HD is becoming simpler, more down to earth and more automatic."

As HD technology builds up steam, more DPs, camera men, technicians and post production crew gain experience. The key is to get on board while the locomotive is still picking up speed. As Holosko sees it, "If you did understand DOS fifteen years ago or had a rudimentary knowledge of the systems, today's computers are a walk in the park." Knowledge is power. "Once you understand the parameters of any medium and you know the rules, you can start breaking them." And then the real fun begins.

John Holosko is currently lensing the Protocol Entertainment production, Bang! The hour-long drama set in Toronto will premiere on OMNI this October.

Fujifilm HD331 HDCAM and DP1001 DVCPRO HD are currently available in a complete selection of lengths. Visit www.fujifilm.ca for more information on Fujifilm Professional Video and Motion Picture Film products.

MYTH #2: SUPER 16 DOESN'T JIBE WITH HDTV: CINEMATOGRAPHERS FOCUS ON RESURGENCE IN USE OF SUPER 16

Cinematographers Steven Reizes, csc and James Chressanthis, ASC challenge the myth that the 16mm format is not robust enough for HDTV. They say it's time to file that notion under obsolete.

Canadian production company Epitome Pictures produces the award-winning Degrassi: The Next Generation for broadcast in both high and standard definition. Cinematographer Gavin Smith, csc photographs the show in the Super 16 film format. Epitome recently started production on a new series called Instant Star. This dramatic show follows the trials of a teenager who wins a "Canadian Idol"-type contest and is catapulted into the fast-paced world of the music business.

Reizes says that shooting Instant Star in the Super 16 format affords him creative flexibility and efficiency on the set.

"Shooting on film allows us to capture more information on the set, so we have more control during postproduction," he points out. "We tested some unusual looks like cross processed reversal film and bleach bypass, but we found we could create those looks in the tape-to-tape session. It's analogous to doing a digital intermediate. I think the results of the marriage between originating on film and applying electronic post techniques has a certain quality that is quite particular to what people are going for today. It looks like film but is beyond what one achieves with a traditional film finish."

Reizes used Kodak Vision2 500T film 7218 for the entire show. "I think bringing an HD camera on the set opens up Pandora's box," he says. "You're bringing a whole set of other options which are more economically handled during post. Film captures so much more latitude and information. Having a second go at it in post makes for a more efficient and flexible process. For drama, I don't think you can get the same look with electronic origination."

Reizes says that shooting with a 500-speed stock makes creating sunlight and other bright effects much easier. "You don't have to punch in nearly as much light to create extreme overexposure relative to the dark and mid-scale areas," he says. "You're lighting to natural levels, which takes less time, saves money, and results in a cooler, more comfortable set."

Reizes says the feedback from Epitome and the show's producers has been extremely positive. "To me, 16 mm these days looks comparable to what you could get on 35 mm film ten years ago," he says. "That's due primarily to advancements in film stocks and in the transfer technology, which have improved dramatically in the last few years."

In December, ESPN will air 3: The Dale Earnhardt Story in HDTV format. The film is the third consecutive MOW bio-pic that Chressanthis has lensed in the Super 16 format. The others were Life With Judy Garland: Me and My Shadows, a mini-series that aired on ABC Television, and The Reagans, a television movie programmed by Showtime.

“Advances in camera, film and HD postproduction technologies make the Super 16 format an attractive option,” Chressanthis says. “The cameras are mobile and the new generation of films render sharp, clean and grainless images with a wide tonal range, and subtleties in highlight and black areas.”

Life With Judy Garland: Me and My Shadows chronicles some 40 years of the life of the legendary entertainer. It was produced at practical locations and on stages in Toronto through Atlantic Alliance Communications.

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“The film parallels the history of cinematography from 1929 through her death in 1969,” Chressanthis says. “We recreated looks from her films, including The Wizard of Oz and Meet Me in St. Louis in Technicolor, A Star is Born was an early Eastman color film, and Girl Crazy in black and white.”

Chressanthis created painterly images during production of Life With Judy Garland choosing from a palette of medium-speed films that “didn’t show a hint of grain.” He used two Kodak Vision color negative films 7274 and 7246, depending on the situation, and Eastman Plus-X (80D) negative for black-and-white scenes.

“We used a skip-bleach process at Medallion PFA (now alphacine) lab, combined with lighting and filtration to desaturate images during the earliest period of the film, because it was a distant time at the beginning of an economic depression,” he explains. “When we got to 1935, we mimicked that look in telecine with less desaturated colors and more subtle contrast. Audiences understand those visual clues.”

The Reagans tracks the life of the former president and his wife Nancy from the 1940s into the 1980s. The MOW was produced at practical locations and on stages in Montreal by Sony Pictures Television and Storyline Entertainment. About 80 percent of this project was recorded on Kodak Vision2 7218 color negative film, including night, interior and other darker scenes.

“It’s the sharpest, clearest most grainless 500-speed film ever made,” Chressanthis says. “It also offers a wider tonal range and the ability to record more subtleties in dark areas, which was very important to us on The Reagans.”

“We timed the film in high-def format, and it aired in 16:9 (aspect ratio),” Chressanthis continues. “With advances in telecine technology, you can pull nuances in colors, contrast and textures off the film and convert them to HD images.”

3:The Dale Earnhardt Story chronicles 40 years of the life of the legendary stock car driver. The film blends breathtaking realistic racing scenes with dramatic footage that probes under the surface and reveals the soul of a larger than life hero. Earnhardt died in a crash during the last lap of the Daytona 500 in 2001.

The MOW was produced by ESPN on a 21-day shooting schedule, which called for some 50 to 60 daily setups at practical locations in and around Charlotte, North Carolina, the geographic center of NASCAR stock car racing.

Chressanthis made maximum use of available light, frequently covering scenes with four cameras. His palette includes three Kodak Vision2 films: 7218, Expression 7229 and 7212. He integrated natural and practical light into his visual strategy to give the actors as much freedom as possible to perform spontaneously.

“There are sequences I didn’t light at all, including one in the forest in a rainstorm with the Earnhardts having a heart-to-heart father and son conversation,” he says, “I was using 7229 with no filters. It was two stops underexposed. It’s kind of a primordial, harsh look that embellished their conversation about life and death.”

The bottom line is that the myth about the Super 16 format not being compatible with HDTV standards has been shattered. The Super 16 format is being used in every corner of the world to produce artful independent features, television, and documentary programs that are ready to air in HD format today, tomorrow and in the future.

MYTH 3: HIGH DEFINITION IS RISKY

(PICS: “DEEP EVIL”-“ULTIMATE SURVIVAL” “BIG PICTURE PLAYOFFS”

Producer’s often approach the HD Post Process with trepidation. And with good reason – the technology can seem intimidating from the outside looking in. But breaking into the HD world doesn’t have to be a scary prospect. With a little planning and education, you can make the leap to HD without fear of falling down.

One of the most important players in helping you plan should be your postproduction house. Vancouver-based Finalé Editworks is a fully integrated post facility that delivers creative finishing solutions for HD or standard definition productions. Now celebrating its fifteenth anniversary, Finalé offers a wide range of postproduction solutions including creative picture editorial through online finishing, sound post and mass duplication. Their clients include a broad cross section of film, television and commercial production companies.

Finalé president Don Thompson explains, “one of the biggest mysteries of HD is the post production process. Our priority is working with film and television producers and their crews to help them make the right choices during production. From which camera formats to use (Sony/Panavision versus Panasonic), whether to shoot 24 progressive vs. 30/25 interlace frame rates, to how these elements will be integrated with existing footage or graphic elements, we want to make sure they don’t make a costly mistake that could affect their post production or miss a delivery opportunity down the road.”

Finalé also build workshops and panels to show producers how beneficial HD can be. “We help them understand that shooting and posting HD can often actually increase revenues through stronger international sales, licensing of HD stock footage and future proofing their project for new delivery channels, says Thompson. “We show them the hidden things they may not have thought of.”

Because of Finalé’s smaller size and experienced staff, they are able to adapt to clients’ changing needs quickly. While many large post facilities sometimes avoid more complex

production challenges to maintain their efficiencies, Finalé focuses on working with select productions. “Our editors and engineers are always coming up with new creative approaches and we have the flexibility and experience to make changes in our workflow if necessary,” adds Thompson.

To help further that adaptability, they’ve relied upon the high-performance Avid DS HD finishing system. This real time editing system features nonlinear video and audio editing, compositing and color correction tools optimized for high definition post production. It is also integrated into Finalé’s digital environment of Avid Symphony, Media Composer and ProTools audio rooms.

Finalé’s advantage of offering a range of editorial and finishing services allows a streamlined postproduction process – from Avid and Final Cut editorial rentals through Online Assembly, Titling and Color Correction. They also now offer one of Western Canada’ leading DVD authoring and duplication facilities.

Finalé makes HD post processes approachable and easy to understand. With this post house, the grand finale is superb HD production that’s as easy to learn as it is brilliant to watch.

HD POST POINTERS

Although every project is unique, you can follow a loose pre-planning checklist for filming.

1. Establish your delivery format.

Studios and networks often have very different standards for delivery, especially in HD. Consider the benefits of HD 24P as a universal mastering format for NTSC, PAL and Film outputs. Determine your needs and always allow for some level of true-proofing.

2. Involve your postproduction house upfront.

Talk to your post shop early in the process before production begins. Post houses such as Finalé Editworks can help you avoid speed bumps during filming and post. Determine frame rates, aspect ratios and workflow. Also consider how sound will be recorded or synced.

3. Decide if you need to both shoot and post in HD.

Just because you’re shooting in high definition doesn’t mean you necessarily have to post in HD. Talk to your post house about different options, such as down-converting to standard definition, depending on your budget and future-proofing needs.

4. Widescreen or 4:3?

The broadcast world is still largely 4:3 aspect in North America. If shooting 16:9 widescreen, ensure that you are still able to pull a 4:3 centre cut or Pan and Scan version from the 16:9 master. For digital broadcasts, international sales, and screenings consider letterbox or anamorphic versions.

Finalé Editworks recently launched a new duplication and tape sales division – eMedia Digital Solutions. For more information about Finalé and eMedia, visit www.finale.tv

It's easy to say that high definition is simple, saves money and looks good. But how many people actually use it? Ultimately, the measure of any medium is popularity. More and more, HD is appealing to the filmmaking masses. From big budget productions like Star Wars to small independent films such as The Corporation and countless television series, HD is catching on in a big way.

MYTH #4: HD IS NOT AS POPULAR AS FILM

“The format is popular and is transitioning because the edits are easier and the medium is more cost effective than film,” says Hiroshi Kobayashi, product manager for professional media at Maxell Canada. High definition is inherently suited to certain genres. Special effects laden series and films are among the biggest users of HD technology. Going directly to tape for effects makes more budgetary and workflow sense than following the film-to-tape conversion route.

One successful HD feature was Scooby Doo2: Monsters Unleashed. Vancouver's Precision Sound supplied the film crew with Maxell HDCAM cassettes for filming and editing. The tape features a super fine ceramic armour metal particles that helped the production achieve an exceptional output level. Maxell's ultra-high performance binder also helps the tape perform exceptionally well in extreme environments. Special effects features that have relied upon the Maxell product include the original Scooby Doo picture and, more recently, The Chronicles of Riddick.

Another genre to benefit from HD technology is documentaries. To document reality, it's necessary to let life happen, unencumbered by bulky film crews and constant breaks in filming. HD cassettes such as Maxell's HDCAM provide longer running times than 35mm making extended continuous filming possible.

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On the small screen, high definition is making many inroads. Again, cost plays a major factor. TV shows today come and go quicker than you can say cancelled. So, 35mm makes less and less sense from a cost perspective when filming a pilot. It's also an ideal medium for reality type programming. With HD you can shoot to look like film or transfer to film but you still retain a “real life” look and feel. The cameras themselves are easier to maneuver making them well suited to small television or location sets.

One such real life Canadian production is an outdoor travel series called “Canada in the Rough”. Dancing Buffalo Productions, an affiliate of Pigeon Branding + Design, is currently filming 13 episodes to air on Global and Prime. The show is using Maxell’s HDCAM and Mini DV 60 tape for the extensive outdoor shoots. Next year the series will shoot up to 26 episodes. It will branch out to explore other countries with offshoot “in the Rough” series.

Maxell is dedicated to continuing the growth of HD technology. Maxell Canada is planning to augment their HD line-up by implementing a DVCPRO HD line of cassettes. The new tapes feature a calendaring technology process. This fosters high levels of output, very little noise and low error rates. What are the results of such improvements? Filmmakers can achieve the highest quality sound and image and a better product for their viewers.

For information on Maxell’s complete line of HDCAM and other Professional Media products, visit maxellcanada.com.

MYTH #5: HIGH-DEFINITION, HIGH COST

High definition opens doors, explains Terry Horbatiuk, Senior Manager of Panasonic System Engineering Group, Broadcast and Professional Audio Video Department. HD is increasingly viable from quality, cost and operational vantage points. Improvements in the technology are allowing more and more image-makers to break into the industry without going bankrupt or compromising their creative goals.

“The two big factors,” says Horbatiuk, “are lower costs and easier workflows.” The rising investment in HD technology by Panasonic and other manufacturers has led to tremendous budgetary and operational improvements – improvements that are making big things possible for the ‘little guys’ of the industry.

It all begins with the camera. Image-makers don’t need to relearn their camera techniques. Panasonic’s AJ-HDC27 VariCam provides many features with film-style image making in mind. These attributes include time-lapse recording, 24p images and variable frame rates for in-camera effects. The VariCam also features CineGamma software that allows users to closely replicate the latitude of film stocks.

Physically, high definition cameras are portable and rugged. Gear such as Panasonic’s VariCam HD Cinema camera is easy to carry in and out of hard to reach sets. This more versatile equipment is providing affordable options for shooting outdoors or in exotic locales.

When the camera stops rolling, editing begins. New technologies are making real-time editing even more accessible for image-makers. Recently, Panasonic and Apple announced the arrival of HD FireWire that will increase production capabilities and lower editing costs. Panasonic’s new AJ-JD1200A VTR features an IEEE 1394 FireWire interface that works with Apple’s new Final Cut Pro HD editing software.

“The implementation of Panasonic’s VariCam-native DVCPRO HD codec in Final Cut Pro HD software revolutionizes high definition production by allowing users to edit on their desktop (and G5 Power Books),” explains David Craig, Product Manager, Panasonic Broadcast Systems Division. The system allows users to edit camera-original quality HD images right on their computer, without buying additional, expensive hardware.

There is no deterioration in the quality of recordings as images are transferred directly from VTR to Final Cut Pro HD via the FireWire interface. The material is then ready for real-time editing. The AJ-HD1200A also allows for format conversions from DV to HD or HD to NTSC.

Another advantage of this system is that HD images can be saved as still photos that are instantly accessible to other channels including print and web. This allows for a more cost-effective transferal of images for advertising, posters, CD-ROMS and other supporting materials.

“With HD available on the desktop, the investment necessary for HD editing is dramatically reduced,” says Craig. “A complete HD editing suite, including a G5 computer and monitor, HD VTR and RAID storage costs less than \$50,000 CDN.”

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In post-production, high def offers even more advantages to the image maker on a budget. The immediacy aspect plays a key role as HD imagery can be edited, manipulated and finished in a real-time workflow.

These technological improvements are helping put independent films on creative par with big budget, studio produced cinema releases. But there are other arenas where Panasonic HD is making a big impact. The format is especially suited for documentaries where it is essential to let ‘real life’ happen, unhindered of intrusive film crews and constant reloading of film.

Science and nature productions also benefit from high definition. Research organizations and academic institutions have relied upon Panasonic’s HD technology to help bring home crystal clear sights and sounds of far off locales, from the edge of the earth to the depths of space.

The technological investment by companies such as Panasonic means that HD production costs are coming down. With HD, we’ve just hit the tip of the iceberg. Advancements are coming fast and furious. This is reducing HD costs for content providers of any budget.

More image-makers are able to get their foot in the door now. There's no need to wait for a green light from deep-pocketed investors. Now, content creators can decide when to shoot and how much to shoot. Independent image-makers are increasingly on the same level with big-budget studios. No matter what your project calls for, Panasonic has the tools to create the images to creatively tell your story at a budget you can afford.

For more information on Panasonic's AJ-HD1200A VTR with IEEE 1394 FireWire interface, visit www.panasonic.ca

MYTH #6: ALL THINGS HD ARE CREATED EQUAL

High definition is fast approaching its tipping point. But it's often mistakenly referred to in very broad, generalized terms. "When people refer to HD itself, there's a bit of misconception. They think all things high definition are created equal. But there are many different flavours of HD. There is a wide range of bit rates, compression schemes and scan rates along with a variety of products and applications," explains Brian Young, marketing Group Manager, Content Creation Division, Communication Information Solutions Group, Sony of Canada.

The first practical flavour of HD is Sony's HDCAM. Prior to HDCAM's release in 1998 and the subsequent update to 24P HDCAM CineAlta in 2000, the high def marketplace didn't have a reliable workhorse system. The introduction of the multi-frame rate camcorder, the HDW-F900, and its companion VTR, the HDW-F500, quickly filled that role. Since then, HDCAM has become the defacto HD system in the industry," says Young.

With over 12,000 pieces sold worldwide, HDCAM made 24P the standard in HD. In North America, most television series shot in HD use HDCAM. At last count, 43 of 44 primetime HD series were shot using the Sony system.

HDCAM provides significant operational and economic benefits. Users can expect real-time image evaluation, instant replay of full-colour, high resolution digital takes on set and up to a 50-minute shooting load. In post, HDCAM easily interfaces with computer-generated images and post production processes.

Successful HD productions are driving the market and also driving the need for even stronger multi-functional systems. Along with primetime television and motion pictures another developing area is the live event, sports and broadcasting arena. In Canada, the Heritage Classic Hockey game was shot entirely using Sony HD equipment. South of the border, the NFL relied upon Sony to shoot Super Bowl XXXVIII. Sony's HDCAM cameras, switchers and VTRs provided superb image quality to bring the intensity of the game home to millions of viewers.

Another opportunity that's driving HD technology is consumer awareness. Television viewers and moviegoers know about it, want it and are willing to pay for it. As Young explains, the popularity of DVS and HDTV programs have both consumers and professionals gravitating towards pixel-driven, high resolution images and displays."

The steady rise in HD programming and consumer awareness is driving manufacturers to develop more intense flavours of high definition. Producers crave higher quality and higher recorded bit rates, with the ability to store a minimum of two hours of footage. The system answering the call is Sony's new HDCAM SR. This new state-of-the-art format provides greater storage capacity, higher data transfer rates and more audio channels.

The new SRW-5000 VTR fits seamlessly into existing broadcast and production workflows. A significant benefit of HDCAM SR is its ability to produce 10 bit recording in 1920 x 1080 in either 4:2:2 or 4:4:4 RGB using a very mild compression at the highest bit rate available for any HD system. The SRW-5000 also features the option of 720P recording and playback to fit with DTV programming and transmission. Both the 1080 and 720 options offer up to 12 channels of digital sound.

The SRW-5000 and its new portable companion, the SRW-1, offer producers more cutting-edge features including integrated up-conversion, down-conversion, 2-3 pull-down and legacy playback of HDCAM and Digital Betacam tapes. Future-proofing capabilities may prove one of the biggest draws with the new VTR.

In addition to SR technology, Sony has developed other unique HD solutions. In April of this year, the manufacturer unveiled version 7 of the XPR1 Non-Linear Production System. It was designed to increase interoperability throughout the HD workflow. As Brian Young explains, "it's the marriage of acquisition codecs with post production processes. It will maximize image quality at all levels."

Another development is Sony HDC-X300, a new point of viewer camera with half inch CCD's. Its diminutive size allows producers to take HD where it's never been before. It also comes with an attractive price tag, costing about \$21,000 CDN. It brings HD to people who normally couldn't afford it including small news outlets, educators and corporate producers.

On the prosumer side of the spectrum, Sony has announced development of additional flavors. Sony recognizes that people who enjoy watching HD video, would also relish the thought of creating and shooting their own high definition footage. The new HDV prosumer concept camcorder unveiled at NAB'2004 highlighted the significant shift of HD to a consumer/prosumer level. This enhances the wide variety of HD product available for the consumer/prosumer, professional, broadcast and cinema applications.

Sony is committed to furthering HD technology. Why so much investment? "In the next twelve to eighteen months, people will be shocked with how quickly things will shift," states Young. You need to find out more about HD because the tipping point is fast

approaching”. We must understand the nuances within high definition in order to truly maximize this extraordinary technology.

Sony is coming to a city near you! The fall tour previewing the latest HD technologies will stop in Montreal, Toronto and Vancouver. Dates and details will be posted in August at www.sony.ca/production. For information on Sony’s current line of HD products, visit www.sonybiz.ca.

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MYTH #7: HD POST IS COMPLICATED

Taking the HD plunge can seem like jumping off a technological cliff. But as more industry professionals get their feet wet, the less intimidating high definition processes become.

Many post-production houses are now expanding their HD services to supply the growing marketplace. Some are even making it their mission to show clients how simple the transition from standard to high definition post can be. One such facility is Toronto-based Soho. This studio specializes in design, pre-visualization, post-production and production of visual effects for high-end commercial, broadcast and feature film clients.

Although the commercial production market has been slow to move to HD, the process is picking up momentum. “Commercial clients tend to think HD is very complicated. That’s part of our mandate – to simplify the process for them,” explains Andy Hunter, Discreet Inferno artist and Soho partner.

The heart of the process has been building a top-notch team of artists and technicians and equipping them with the highest quality hardware and software to help streamline their HD workflow. “Manufacturers today have built finishing systems in such a way that the whole process is relatively simple,” says Hunter. “The systems basically treat your 24p frame tape as the neg. If you treat it that way, it’s straightforward. You can do your colour corrects from there. It doesn’t take any options away – it gives you even more options.”

After testing products from various manufacturers, Hunter and his Soho colleagues settled on the Discreet Fire finishing system. “Fire was the first non-linear editing and finishing system to offer non-compressed HD in 1998,” says Maurice Patel, Marketing Manager, Discreet Systems and Software. It delivers multiple masters in multiple formats on a single system.

One impediment preventing content producers from diving into HD has been the lack of consistent frame-rates and standards. Increasingly, post houses such as Soho are being asked to provide multiple versions of the end product to ensure compatibility with broadcasters’ various standards. This can be a costly and seemingly complex proposition if your post house doesn’t have the proper equipment or training. The Fire system was specifically designed to tackle this problem. It manages the most data-heavy, complex HD projects and delivers them in various formats on just one system. Shops such as Soho have been drawn to Fire because it is the most effective editing box available at any resolution. Fire, coupled with Discreet’s Inferno visual effects compositing system, has enabled Soho to streamline their process to reduce client’s fears of HD workflows.

“The seamlessness of our facility is one of our big advantages,” explains Lee Maund, Discreet Fire artist and Soho partner. “Our systems talk to one another. They are networked together. Our Fire team can edit a project while the other team in the Inferno room can be working on some 3D effects. You just access each others’ libraries and grab the elements you need.” Says Maund, “its working two rooms together very seamlessly. And you can now use any resolution on our system. We can handle everything from standard def all the way up to full film resolution, through the whole company.”

Although this high tech equipment is crucial to Soho’s commercial success, both Maund and Hunter agree – it’s their skilled, creative team that sets them apart. “Although you have to have the right technology,” explains Maund, “the one thing we really highlight is our people. Getting the right equipment has cost a lot of money but it’s the people who are invaluable.” Tools can make a difference in the leap to HD. But ultimately, it will be people behind the technology who take high definition to the next level.

Soho in collaboration with Leo Burnett Ltd./Toronto, was recently awarded a 2004 Gold BDA Medallion in the on-air commercial category at the Promax BDA conference held in New York for their 2003 Fruitopia Campaign. Soho is currently finishing work for Nelvana Ltd. on a 3D animated Care Bears Movie set for release to DVD later this year.
