High Definition Format Guide

SONY

www.sonybiz.net/choice
The move to High Definition continues to accelerate around the world. New channels transmitting High Definition pictures are being launched constantly, and the rapid adoption by broadcasters is more than matched by the excitement and enthusiasm of the world’s viewing audiences for the unique experience that can only be delivered by High Definition.

By the end of 2007 it is predicted that there will be 74 HD channels broadcasting in Europe, a number that is set to explode to more than 200 by the end of 2011*. In the same timeframe, worldwide HD channel count will grow to more than 500. In preparation, consumers are rushing to buy HD-ready receivers and High Definition displays. While 13m homes in Western Europe have HD-ready displays today, some 94m will be equipped by the end of 2011, representing more than half of all homes. The move to HD is unstoppable.

High Definition pictures and multi-channel surround sound are ideally suited to today’s world of numerous distribution and display options. HD pictures look spectacular when viewed on widescreen televisions or computer displays; they look even more impressive when presented to movie audiences whether in cinemas, or at home where Blu-ray delivers superb picture quality with the convenience of DVD-packaged media.

As viewing audiences, programme makers, advertisers and cinematographers have recognised the unsurpassed experience that High Definition delivers, Sony also recognises that the differing needs and budgets of each production type demand different High Definition formats. This guide has been created to help you select the Sony High Definition format that will allow you to realise your creative vision while reducing operational costs and streamlining production efficiency.

* Source: Screen Digest: HDTV in Europe: one year on, where are we now? June 2007
High Definition delivers an improved on-screen look for every type of production, from television dramas to movies, from corporate videos to documentaries, from advertisements to live sport and entertainment. It’s an improved look which applies across multiple distribution channels and methods of display. Broadcast to TV screens, projected in cinemas, viewed over the internet on computer displays; the permutations of programme type, distribution and display are infinite. HD – in both production and viewing terms – is appealing to a broader audience than ever before.

At the forefront of HD development over 25 years, Sony understands the hugely different demands made by similarly different productions. A Hollywood movie maker has different set of criteria to a news producer. A documentary maker faces different demands to those of a live sports broadcaster. All, however, benefit from the quality of HD.

Sony’s mission is to meet the varying needs of its customers. Sony provides a range of HD formats to suit the needs of any project; that give its customers choice. The choice between HDV, XDCAM, HDCAM and HDCAM SR. The choice between tape, Professional Disc and memory-based storage.

Only Sony offers four High Definition format options, all capturing images at a full 1080-line resolution. From entry-level HDV to the ultimate quality HDCAM SR, the Sony HD family delivers an integrated, balanced blend of features and performance.

The choice of HD format is yours. Choosing Sony HD means that you never need to compromise your personal vision.
Great pictures, ultimate portability and low operating costs – the perfect entry to the thrilling world of High Definition, with all the benefits of tape-based recording

With Sony HDV, the benefits of HD are accessible to everyone. Its compact, lightweight design, combined with sophisticated functionality and affordable pricing makes Sony HDV the ideal entry-level format choice for HD production. HDV records pictures at full 1080-line High Definition resolution onto standard DV format cassette, reducing media costs significantly while delivering the benefits of tape-based recording and archiving.

Tri-format HDV/DVCAM/DV recording and playback is possible with the same camcorder or VTR deck, reducing hardware inventory requirements, storage and transportation costs. A step up in quality from DVCAM, HDV makes it even more affordable for programme-makers to experience the benefits of HD.

“I can fly with all types of cameras, but I prefer my Sony HVR-Z1E. The advantage is that it weighs only 2.1 kg and takes HDV 1440 x 1080i. Before I was using a Digital Betacam, which weighs about 13 kg. That is a big difference when you have to steer the camera 50 centimetres away from your body. In Greenland, it was running for days at minus 30 degrees Celsius without a problem — that is a clear indication that it is very durable, even under arctic conditions.”

Anders AGEOBO – TV Photographer

“This HDV camcorder is an extraordinary tool for documentary filmmaking: handy and durable, it offers impressive image quality and an exceptional price/performance ratio.”

Pierre-Yves VANDEWEERD

“... and the camera’s great colour saturation and definition...”

Adam GILES
Cameraman and Director – CAMBRIDGE FILM & TELEVISION PRODUCTIONS
Tapeless products for file-based production – combining the best of the video and IT worlds and ideal for quick turnaround projects where deadlines are tight.

XDCAM is the family name of the Sony line-up of tapeless camcorders and decks. The HD line-up is now stronger than ever, and with a choice of XDCAM EX, XDCAM HD and XDCAM HD 422, offers the most flexible path to file-based production. All use MPEG-2 HD data compression to record breathtaking pictures. Simply choose the format best suited to the programme being created.

**XDCAM EX**

XDCAM EX represents an exciting new low-cost entry point into the world of HD. The first professional HD camcorder to record onto Sony-manufactured “SxS PRO™” memory cards which comply with the ExpressCard™ standard, XDCAM EX can record up to 100 minutes of content onto two removable 16GB cards when recording at 35Mbps.

Switchable between 1080 and 720 line operation and supporting the major international recording standards up to CineAlta 1080/23.98PsF, XDCAM EX makes it fast and easy to shoot, edit and distribute great quality High Definition pictures.
XDCAM HD

XDCAM HD unites High Definition picture quality with all the benefits of non-linear, file-based workflow and exceptionally affordable media costs. Featuring camcorders with 1/2-inch interchangeable lenses, and based on the same XDCAM Professional Disc technology that has already transformed operational efficiency in the Standard Definition world, XDCAM HD offers an elegant path to HD for cost-conscious users looking to switch from analogue or DVCAM.

MPEG HD encoding ensures crisp, clear image quality with true 1080-line HD resolution. Recording rates of 18Mbps, 25Mbps and 35Mbps, and with the newest models now supporting 50GB Dual Layer Professional Disc, allows picture quality or record duration to be maximised. Support from more than 35 XDCAM partner vendors also ensures that XDCAM HD fits seamlessly into today’s most popular non-linear editing environments.

XDCAM HD 422

XDCAM HD 422 sits at the top of the range in the XDCAM family. The stunning HD picture quality delivered at recording and playback rates of up to 50Mbps, with 2/3-inch 1920 x 1080 resolution CCDs, 14 bit A/D conversion and 4:2:2 recording will increase the appeal of Professional Disc for applications such as TV drama, documentary and for mainstream entertainment programmes that require a high quality look.

File-based acquisition, with thumbnail and proxy operation is also ideal for fast-turnaround news and live applications where speed of production is a critical requirement.

“XDCAM HD is the future of production because working with file-based media provides extra speed when it’s needed. From a commercial point of view, being able to turnaround full edits in a matter of hours has really opened up new doors for us.”

Simon FITZGERALD
Managing Director – BHP SPORT

“This is a very robust format, with tapeless acquisition a big plus, there are not so many moving parts to cause problems and transportation is much easier.”

Jason GRAHAM – COZMIC.TV
Prestige results on Standard Definition budgets: the world’s most established HD format with superb picture quality and an unmatched track record for production of the most prestigious TV programmes.

The ideal medium for drama, documentaries, commercials and mainstream television programming, HDCAM has become the High Definition format of choice for discerning users. Already chosen as an “in-house format” by broadcasters around the world, HDCAM offers superb High Definition picture performance while offering a convenient choice of workflow options.

Whether you prefer to post produce in HDCAM or down-convert for editing within existing SD infrastructures, HDCAM offers greater flexibility to match your creative preferences and operational needs. Shoot at 24PsF or 25PsF to give your pictures a prestige, ‘filmic’ look. Alternatively, select 50i or 60i for a more immediate feel, especially with fast-moving action – the choice is yours.

Providing an ideal migration to HD for customers working within Standard Definition budgets, HDCAM future-proofs and increases the international marketability of all your programming.

"We chose the HDW-750P for its mobility and flexibility. It also suits our budget, as it is the best picture quality for us at the best price."

Xavier THILLEN
Head of Production – BCE

"HD is just starting. There are a lot of rumours about it, and some people are hesitant in using this format. Other people think that the move to digital will fundamentally change the nature of the filmed image. Thanks to the HDW-750P, we have obtained pictures that don’t look like classic video; we have real cinematographic rendering."

Lubomir BAKCHEV
Director of Photography

"We shot using HDCAM for many reasons, mainly the demand of broadcasters for international co-production."

Pierre STINE
Director – Director of Photography
True RGB 4:4:4 for uncompromised picture and sound quality: ultimate HD performance for the most demanding users

Preferred by leading media industry players thanks to its unparalleled picture quality and ultra-mild signal compression, HDCAM SR has been developed to accommodate the most demanding applications. From movies and commercials to sophisticated green screen effects, CGI, digital intermediates, telecine transfers and archiving, there’s no format to match the peerless performance of HDCAM SR.

Delivering breathtakingly natural, detailed pictures, thanks to true RGB 4:4:4: coding at a bit rate of up to 880Mbps, HDCAM SR ensures that the most prestigious productions will stand out. And with 12 uncompressed digital audio tracks, HDCAM SR is also perfect for multi-channel surround sound mastering. When nothing less than the very best picture quality and performance will do, HDCAM SR is the ultimate choice of the world’s most discerning creative professionals.

“"The advantage of HDCAM SR is that you’ve got a tape in HD at 25 frames – you can make down conversions to PAL or NTSC. You don’t have to go back to different masters, it can all be made from the same one.”"  

Chris BEETON  
Senior Colourist – PEPPER POST

“"I could see the difference when I mastered material originated on 35mm. HDCAM SR is definitely the preferred mastering option, you can lay off every other possible format from it. Its ability to record and playback in RGB means you’re not fiddling about with the colours, which seems to keep the data boys much happier than the departure to a YUV data signal.”"  

David KLAFOWSKI  
Technical Director – THE FARM GROUP

“"HDCAM SR will help us conserve the quality as long as possible along the production chain.”"  

Olivier HERMEN  
Technical Director – CANAL+
Services from Sony: working with you, working for you. Recognising that every company and every challenge is unique, we offer a complete and comprehensive range of services all the way through consulting, planning, financing, implementation, training, servicing, maintenance and support. Choose exactly what’s right for you, when and where you need it.

- Sony Professional Services: Tailor-made design, installation and project management of audio-visual and IT (AV/IT) systems using skills developed over 25 years of systems integration.

- Sony Financial Services: Innovative and flexible finance solutions designed to meet budgetary and financial requirements and constraints, enabling businesses to always have the most current technology.

- Sony Training Services: A range of off-the-shelf or customised training services from basic operation through to high-level technical maintenance.

- Sony Prime Support Services: Fully integrated and customised support for products and systems throughout their operational life, combining proactive and reactive technical services.

Not all services are available in all countries. If you’d like to find out more about what we do, who we do it for and how we do it, visit www.sonybiz.net or contact your local Sony office.