

UNDERSTANDING
hdTV

17th/18th
NOVEMBER
2005

Venue:
THE DIGITAL TEST BED
NATIONAL
FILM
THEATRE
LONDON SOUTHBANK

A N N O U N C E M E N T

HIGH DEFINITION & DIGITAL CINEMA LTD

Presents

UNDERSTANDING *hdTV* TECHNOLOGY

Course Leaders

JOHN WATKINSON

UK International consultant in audio, video and data recording

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International Consultant in High Definition Television and Digital Cinema

About this course

This highly practical course has been developed for TV Industry Professionals facing the challenge of a migration to HDTV. The cost of the two day course is £850 + VAT

Is it for you?

The course is designed to suit a broad spectrum of both theoretical and practical issues, whether you are a technician or engineering manager, there will be something for you.

What you will learn

- You will understand the origins of HDTV and why certain decisions were made when defining the key parameters.
- You will understand the difference between SDTV and HDTV and what issues are critical to reliable performance.
- You will be given primers in the human visual system and moving image portrayal.
- You will learn about colourimetry and its implications.
- You will be given primers in HD VTR, Switcher and Camera Systems.
- You will be given practical information on how to build an HD system that works with information on new diagnostic systems and metrics for reliable system operation.

FULL TWO DAY PROGRAMME →

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PROGRAMME

Day One

Introduction

- What's your definition of high definition?
Is definition all there is to it? Of course not!
- The things that matter.
 - Realism v Escapism.

The Human Visual System

- The structure of the eye.
- The retina.
- Rods and cones and how they differ.
- Why the eye is not a camera.
- Saccadic motion.
- The pretzel effect.
- Eye tracking and motion perception.
- Persistence of vision.
- Fusion.

Moving Image Portrayal

- Image sampling, spatial and temporal.
- Aperture effect.
- Oversampling and resizing.
- Scanning techniques.
- Motion portrayal and dynamic resolution.
- The optic flow axis.
- Comparison of film, interlaced scanning and progressive scanning.
- Choice of frame rate.
- Where present frame rates came from.
- What frame rates should we use?

Colorimetry

- How we see colour.
- Colour constancy.
- Metamerism and the use of primaries.
- CIE colour space.
- Colour temperature.
- Colour space for transmission and display.
- Digital colour space.
- Valid and invalid colours.

Compression for HDTV

- MPEG-2 vs H-264(AVC).
- Spatial and temporal coding.
- Transforms, motion compensation, bi-directional coding, prediction.
- Blocking and concealment.
- Transporting compressed HDTV.
- Packets and PIDs. Timebase recovery and PCR.
- Multiplexing, statistical multiplexing.
- Stuffing.

Day Two

Cameras

- Types of HD camera: prism vs stripe and mask systems.
- Sensor size vs depth of focus.
- Enhanced processing: Gamma, white knee etc.
- Set up files
- The importance of the correct shutter speed.
- Cameras connections: copper, fibre.
- HDV, "Will it make amateurs of us all"

Equipment

- Interface standards
- P & PSF
- The 1.5 Gbps HD Serial interface
- Data integrity and CRCs
- Connectors & Cables
- Analog design issues
- Switchers
- Graphics and CG
- Editing
- SD/HD compatibility and interoperability
- Displays, CRT, PLASMA, LCD

HD recorders

HD recorder block diagram.

- Compression, segmentation, multiplexing, error correction, channel coding, timebase correction.
- Practical HD formats: HD-Cam, HD-Cam SR, HD-D5, D6, HD-DV100, HDV.

All programme content subject to change without notice

CONTACT



Request E-mail or Hard Copy details from:

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