

# Total MPEG for engineers

A 2 day **Hands on** training course



## Description

This course studies the MPEG standards for video and audio compression. A major focus is on MPEG-4 and MPEG-TS. Hands on includes decoding and analysing MPEG streams.



## Key outcomes

By the end of the course delegates will be able to:

- ✓ Recognise the main MPEG standards.
- ✓ Describe the techniques used in MPEG video and audio compression.
- ✓ Compare MPEG2m MPEG4 and MPEG-H.
- ✓ Describe the MPEG-TS.
- ✓ Analyse MPEG streams.



## Training approach

This structured course uses Instructor Led Training to provide the best possible learning experience. Small class sizes ensure students benefit from our engaging and interactive style of teaching with delegates encouraged to ask questions throughout the course. Quizzes follow each major section allowing checking of learning. Hands on sessions are used throughout to allow delegates to consolidate their new skills.



## Details

### Who will benefit?

Anyone working with MPEG.

### Prerequisites

None

**Duration:** 2 days

**Overall rating:**



### Generic training



Generic training compliments product specific courses covering the complete picture of all relevant devices including the protocols "on the wire".

*"Friendly environment with expert teaching that teaches the why before the how."*  
G.C. Fasthosts

### Small class sizes



We limit our maximum class size to 8 delegates; often we have less than this. This ensures optimal interactivity between delegates and instructor.

*"Excellent course. The small class size was a great benefit..."*  
M.B. IBM

### Hands On training



The majority of our courses use hands on sessions to reinforce the theory.

*"Not many courses have practice added to it. Normally just the theoretical stuff is covered."*  
J.W. Vodafone

### Our courseware



We write our own courses; courseware does not just consist of slides and our slides are diagrams not bullet point text.

*"Comprehensive materials that made the course easy to follow and will be used as a reference point."*  
V.B. Rockwell Collins

### Customise your course



Please contact us if you would like a course to be customised to meet your specific requirements. Have the course your way.

*"I was very impressed by the combination of practical and theory. Very informative. Friendly approachable environment, lots of hands on."*  
S.R. Qinetiq

# Total MPEG for engineers

## Course content

### Introduction

What is MPEG? MPEG and VCEG, MPEG 1, MPEG 2, MPEG-3, MPEG-4, MPEG-H, others, codecs and containers, licensing and patents, parts and layers (System, Video, Audio, others).

### MPEG2

DVD, DVB, characteristics, MPEG2 Part2, audio MPEG2 Part 7 (AAC).

### MPEG tools

Wireshark, vlc, analysers, decoders, ffmpeg, wowzer.

### MPEG2 Video compression

Sampling, bit rates, resolution. Inter and Intra frame coding, I, B, P frames, GOP, slices, blocks, macroblocks. Motion estimation. Hands on: Analysing MPEG frames.

### MPEG4

Profiles and levels, Enhancements, Parts 1,2,3, Part 10 and AVC, Part 14 and mp4. Performance versus MPEG2.

### MPEG audio

Coding, frequencies, bit rates.

### MPEG-TS

PES, Transport Streams, TS elements, packets, PID, Programs, PSI, PAT, PMT, synchronisation, PCR, PTS.

### MPEG-H Part 2

HEVC, benefits, improvements.

### Video codecs

What is a CODEC, pictures and audio, digitisation, sampling, quantisation, encoding, compressing.

## What our customers say

*"Absolutely brilliant, very knowledgeable and helpful trainer would recommend to teach anyone. Kept me interested 100% of the time which is very impressive as this does not happen often, if at all!"*

O. B. Network Rail

*"The best technical course I've been on!"*

L. W. Fujitsu Telecoms Europe

*"Very well thought out and structured course. Would recommend 100%. Lots of equipment, good quality."*

A.R. Unipart

*"Course content is interesting. Relevant to current systems and presented well."*

S.S-T. Arqiva

