



## Digital Video Broadcasting Training Course Overview

Specific instances may vary in response to data provided by delegates during the welcome session of day 1

### Day 1

- Welcome About this course.
- Site safety briefing
- DVB Overview
- Origins of DVB
- Comparison between Analogue and Digital TV
- DVB project members and Standards
- Digital Video and Audio Brief
- Common sampling processes used to create digital video and audio signals used in DVB transmission
- Audio Data Rate Reduction
- Describing the processes used to reduce the number of data bits required to describe an audio signal
- MPEG audio standards (MPEG 2 layer 3, AAC)

### Day 2

- Video data rate reduction principles commonly used processes to exploit temporal, spatial and statistical redundancy (DCT/Wavelet compression)
- Predictive techniques and motion vector compensation
- MPEG-2 data rate reduction using I P and B encoding mechanisms
- Block structure of MPEG encoder and MPEG decoder
- Profiles and levels of operation
- MPEG-2 transport stream structure, PES Packetisation
- Multiplexing concepts
- PCR, PTS and DTS signalling
- Transport packetisation
- PSI table structure, PAT and PMT tables

### Day 3

- DVB SI table types and structures
- Practical Investigation Hands-on investigation of MPEG PSI and DVB SI tables using PC based transport stream analyser

- Transport stream measurements
- The recommended signal elements to measure, to check quality of service and decidability of a transport stream
- Transport stream interfaces Physical interfaces used in equipment interconnection
- Data over DVB Basic concepts of using DVB transport streams to provide asynchronous and synchronous data transport, and to deliver data and object carousels

### Day 4

- Digital Modulation principles used within the various DVB radio frequency carrier systems (BPSK, QPSK, 8-PSK, QAM) in both linear and non-linear modulation
- Coded Orthogonal Frequency Division Multiplexing (COFDM) concepts
- Terrestrial Transmission network Implementation of cable and DTT delivery Systems
- Single Frequency Networks (SFN's) and their use within a broadcast network

### Day 5

- Digital Satellite Delivery networks Features of DVB-S delivery platforms including
- orbital position considerations, receiver dish size considerations, error protection schemes
- IRD and Access Control Block structures of typical Integrated Receiver Decoders, mandatory and optional DVB elements
- Function of middleware in the decoder
- Principles of DVB common scrambling mechanism for access control
- Overview of a large DVB compression system, multiplexing and multi-platform delivery system