broadcast communications

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Training Course Description

Course: **Broadcast Essentials for IT Professionals**

Course code: **ESS100**

Duration: **2 days**

Format:

Classroom Explanation and Demonstration

Supporting materials:

Each delegate completing the course will receive the following:

- A full set of course notes
- Certificate of attendance

Overview:

The course provide delegates with an understanding of the technologies, vocabulary and techniques and used in contemporary television broadcast systems and operations.

Who should attend:

Technical staff working in a television environment who need to become familiar with the specific technologies used in this field.

Prerequisites:

A general familiarity with technical concepts is assumed. Prior knowledge of television or broadcast is not necessary.

Key benefits:

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

- Describe the broadcast chain from camera to TV set
- Describe the key signal types used in a TV broadcast system
- Understand the use of test signals in a TV environment
- Understand the use of Analogue and Digital TV signals
- Understand the use of timecode in a broadcast environment
- Describe High Definition and Standard Definition TV standards
- Describe PAL and NTSC TV systems

Course Content

THE BROADCAST CHAIN
- Acquisition and Cameras
- VTRs and Disc based storage
- Edit Systems
- Playout Systems
- Transmission Systems

ANALOGUE VIDEO
- Black and White
- Interlace and field structure
- Electrical representation of video
- Field and Frame structures
- Frame rates
- PAL and NTSC Video Colour Systems
- Creating the Composite video signal
- Video reference signal
- Analogue Component Video
- Baseband Video Cabling
- Picture Aspect Ratios

TESTING VIDEO SYTEMS
- Video Test Signals
- Video Monitoring equipment

DIGITAL VIDEO
- SDI, (Serial Digital Interface) Video
- Video Sampling
- Audio in SDI
- HSDSDI, twin HDSDI

STANDARDS
- Standard Definition (SDTV)
- High Definition (HDTV)
- The global PAL and NTSC standards
- Converting between Standards

AUDIO
- Analogue Audio
- Decibels in audio
- Analogue levels
- Digital Levels
- Digital Audio
- Sample rates and word lengths
- AES/EBU audio

Timecode
- EBU and SMPTE time codes
- Drop frame time code
- Linear Time code
- VITC
- Time code synchronisation