

# B Course (Nov 81 – Feb 82, 10 weeks)

Tests: Weekly, Pass Mark = 60%

## B Course Part 2 – Television

Signal Processing Revision: AC Coupling, Restoring DC Component, Black Level Clamp, Scanning, Rasters, Interlace, Field Interval, Transmission Standards, Sound, 625 PAL Standard

Multi Channel & Dual Timebase Oscilloscopes: Multi-Trace Operation, Modes (Chop, Alternate), Mixed Timebase Operation

Colorimetry: Eye Response, Perception, Colour Receptors, Measurement, Chromaticity Chart, NTSC Phosphors, Munsell Notation

Colour Signal Processing: Basic RGB System, Colour Displays, Compatibility, Colour Differences Signals, Gamma, Suppressed Carrier Modulation, Carriers In Quadrature, Weighting, Composite Signal, Differential Phase and Differential Gain Distortions, NTSC, PAL, Simple PAL, Delay PAL, SECAM, Choice Of Subcarrier Frequency, Bruch Blanking, Eight Field Sequence

TV Measurements: Linear Distortions (HF Response, LF Response, Phase Response, Chrominance-Luminance Gain, Chrominance-Luminance Delay), Non-Linear Distortions (Luminance Non-Linearity, Differential Gain, Differential Phase, Chrominance-Luminance Intermodulation), Noise, Noise Weighting, Test Signal Choice, Pulse And Bar Signals

Stereo Broadcasting: A-B, M-S, dB Definitions, Standards, FM Radio Transmission, VUs, PPMs, AC Testing, EP14

Audio Magnetic Recording Standards: Standardisation, Tape Size, Tape Speed, track Size/Position, Head Width, Azimuth, Level Of Flux, Frequency Characteristics, Bias

Camera Tubes: Electron Beam Production, Focussing, Scanning, Alignment, Photoconductive Tubes, Transfer Characteristic, Lag, Beam Lag, Dark Currents, Spectral Response, Resolution, Clamping, Pulse Cancellation, Shading, Flare Correction, Colour Correction Matrix, Contour Correction, Cable Correction, Pulse Chains, Specification, SPGs

Picture Monitors: Video Chain, Clamping, Sync Separation, Field Scan, Line Scan, EHT Generation, Voltage Multipliers, Pincushion Distortion,

Vision Mixers: Basics, Superimpose, Non-Synchronous sources, Non-Sync Interlocking, Split Screen Unit, Insert, Cue Lights, Previews, Handling Of Syncs and Burst, Overlay (Caption, CSO)

Videotape Recording History: VERA, Quadruplex, Helical Scan, Bandwidth, Signal Paths (Record, Replay), Phasing, Servo Controls (Tape Speed, Head Drum)

Speed/Phase), Timebase Correction (AMTEC, COLORTEC), Velocity Compensation, Helical High and Low Band Systems, Editing

Disc Reproduction Revision: Monophonic, Stereophonic, Stylus, Cartridge, Tracking Arm, Equalisation

Sound Desks Revision: Requirements (Programme, Monitoring, Comms, Misc), Programme (Channels, Groups, Independents, Effects, Main Fader), Monitoring (Speakers, PPMs), Comms (Talkbacks, Reverse Talkbacks, Programme Feeds, Signal Lights, Intercoms, Telephones, Buzzers), Misc (PFL, AFL, FB, PA, CF), Audio Line Termination, Cabling, Star Quad, Rep Coils, Phantoms

Telephones: Speech Circuits, Battery Telephones, Signalling Circuits

Film & Telecine: Film Material, Telecine, Afterglow Distortion, Electronic Masking, Tarif,

Practicals: Sound Monitoring Control System Exercise, Natlock synchronising System Exercise, Oscilloscopes 1, Oscilloscopes 2, Tale Machine Line-up, Television Sound Desk, Audio Testing & Fault Finding, Television Measurements, Unit Fault Finding, Constructional Project, Colorimetry, Line And Field Scan Generation, Subjective Effects & Random Noise, Low Frequency Coder & Decoder, PAL Coder Line-up, Investigation Of Monochrome & Colour TV Fundamentals, Source Synchronisation Package