

BROADCASTING AND TV ENGINEERING

Unit I: IMAGE ANALYSIS AND TV CAMERA

Picture Scanning : Standards of transmission - composite video signal and signal analysis - TV camera - basic principle - image orthicon - vidicon - silicon diode array vidicon - solid state image scanners.

Unit II: TRANSMITTERS AND RECEIVERS

Transmitter : Generation of carrier-modulation-side band suppression
Receivers : Input circuits-frequency conversion - IF amplification and detection - image reproduction.

Unit III: PRINCIPLES OF COLOUR TELEVISION

Three colour theory - colour television camera - colour television display tubes - deflection tubes - deflection unit - pin cushion correction techniques -automatic degaussing circuit-grey scale tracking.

Unit IV : COLOUR SIGNAL TRANSMISSION AND RECEPTION:

Bandwidth for colour signal transmission - modulation of colour difference signal - weighting factors - formation of chrominance signal.
NTSC, PAL, and SECAM colour TV systems - cancellation of phase errors - limitations merits and demerits of PAL, NTSC and SECAM systems.

Unit V: REMOTE CONTROL AND TELEVISION APPLICATIONS

Electronic control systems - electronic touch tuning - frequency synthesizer - TV tuner AFT, ABC instant on circuitry - picture tube boosters.
Applications: cable television - CCTV - theatre television - picture phone and facsimile -VTR - television via satellite - TV games.

TEXT BOOK.

R.R. Gulati - Monochrome and colour Television-Wiley Eastern Ltd 1983.

REFERENCE BOOK:

ARAVIND M. Dhake- Television Engineering-TMH -1979