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Nota di contenuto	Preface -- Acknowledgments -- 1. Digital Television Transmission Standards ATSC terrestrial transmission standard, vestigial sideband modulation, DVB-T transmission standard, ISDB-T transmission standard, channel allocations, antenna height and power, MPEG-2 -- 2. Performance Objectives for Digital Television System noise, external noise sources, transmission errors, error vector magnitude, eye pattern, interference, cochannel interference, adjacent channel interference, analog to digital TV, transmitter requirements -- 3. Channel Coding and Modulation for Digital Television Data synchronization, randomization/scrambling, forward error correction, interleaving, inner code, frame sync insertion, quadrature modulation, 8 VSB, bandwidth, error rate, COFDM, flexibility, bandwidth -- 4. Transmitters for Digital Television Precorrection and equalization, up conversion, precise frequency control, RF amplifiers, solid-state transmitters, RF amplifier modules, power supplies, power combiners, Wilkinson combiner, ring combiner, starpoint combiner, cooling, automatic gain or level control, ac distribution, transmitter control, tube transmitters, tube or solid-state transmitters, performance quality, retrofit of analog transmitters for DTV -- 5. Radio-Frequency Systems for Digital Television Constant-impedance filter, output filters, elliptic function filters, cavities, channel

combiners -- 6. Transmission Line for Digital Television Fundamental parameters, efficiency, effect of VSWR, system AERP, rigid coaxial transmission lines, dissipation, attenuation, and power handling, higher-order modes, peak power rating, frequency response, standard lengths, corrugated coaxial cables, wind load, waveguide, bandwidth, waveguide attenuation, power rating, frequency response, size trade-offs, which line? waveguide or coax? pressurization -- 7. Transmitting Antennas for Digital Television Antenna patterns, elevation pattern, mechanical stability, null fill, azimuth pattern, slotted cylinder antennas, gain and directivity, power handling, antenna impedance, bandwidth and frequency response, multiple-channel operation, types of digital television broadcast antennas, antenna mounting
8. Radio-Wave Propagation Free-space propagation, distance to the radio horizon, refraction, multipath, ground reflections, surface roughness, effect of earth's curvature, Fresnel zones, linear distortions, diffraction, fading, undesired signal, field tests, Charlotte, North Carolina, Chicago, Illinois, Raleigh, North Carolina -- 9. Test and Measurement for Digital Television Power measurements, average power measurement, calorimetry, power meters, peak power measurement, measurement uncertainty, testing digital television transmitters -- Symbols and Abbreviations -- Index

Sommario/riassunto

The first comprehensive, single source reference on what engineers and managers need to know to migrate successfully from analog to digital TV systems. Well-known industry consultant Gerald Collins describes all major digital TV transmission standards and provides practical guidance on the implementation, operation, and performance of the major transmission systems in current use worldwide