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Nota di contenuto	Front Cover; RF Components and Circuits; Copyright Page; Contents; Foreword; Preface; Part 1: Introduction; Chapter 1. Introduction to radio frequencies; What are the 'radio frequencies'?; Why are radio frequencies different?; What this book covers; Chapter 2. Signals and noise; Types of signals; Fourier series; Waveform symmetry; Transient signals; Sampled signals; Noise; Signal-to-noise ratio (SNR or Sn); Noise factor, noise figure and noise temperature; Noise in cascade amplifiers; Noise reduction by signal averaging; Chapter 3. Radio receivers; Signals, noise and reception The reception problemStrategies; Radio receiver specifications; Origins; Superheterodyne receivers; Receiver performance factors; Units of measure; Noise; Signal-to-noise ratio (SNR or Sn); Receiver noise floor; Static measures of receiver performance; Sensitivity; Selectivity; Stability; AGC range and threshold; Dynamic performance; Intermodulation products; -1 dB compression point; Third-order intercept point; Dynamic range; Blocking; Cross-modulation; Reciprocal mixing; IF notch rejection; Internal spurii; Part 2: Circuits; Chapter 4. RF amplifiers; Noise and preselectors/preamplifiers Amplifier configurationsTransistor gain; Classification by common

element; Transistor biasing; Frequency characteristics; JFET and MOSFET connections; JFET preselector; VHF receiver preselector; MOSFET preselector; Voltage-tuned receiver preselector; Broadband RF preamplifier for VLF, LF and AM BCB; Push-pull RF amplifiers; Broadband RF amplifier (50 ohm input and output); Chapter 5. Mixers; Linear-vs-non-linear mixers; Simple diode mixer; The question of 'balance'; Spurious responses; Mixer distortion products; Third-order intercept point; Calculating intercept points; Mixer losses
Noise figureNoise balance; Single-ended active mixer circuits; Balanced active mixers; Gilbert cell mixers; Passive double-balanced mixers; Diplexers; Bandpass diplexers; Double DBM; Image reject mixers; VHF/UHF microwave mixer circuits; Chapter 6. Oscillators; Feedback oscillators; General types of RF oscillator circuits; Piezoelectric crystals; Temperature performance; Miller oscillators; Pierce oscillators; Butler oscillators; Colpitts oscillators; Overtone oscillators; Frequency stability; Temperature; Other stability criteria; Frequency synthesizers; Chapter 7. IF amplifiers and filters
IF filters: general filter theoryL-C IF filters; Crystal filters; Crystal ladder filters; Monolithic ceramic crystal filters; Mechanical filters; Saw filters; Filter switching in IF amplifiers; Amplifier circuits; Cascode pair amplifier; 'Universal' IF amplifier; Coupling to block filters; More IC IF amplifiers; FM IF amplifier; Successive detection logarithmic amplifiers; Chapter 8. Demodulators; AM envelope detectors; AM noise; Synchronous AM demodulation; Double sideband (DSBSC) and single sideband (SSBSC) suppressed carrier demodulators; Phasing method; FM and PM demodulator circuits
Foster-Seeley discriminator

Sommario/riassunto

Some basic knowledge of electronics is assumed, but the essential features of RF are fully described, including the important topic of receiver dynamic which is often overlooked in basic textbooks. The theory and circuit descriptions are geared towards genuine design applications rather than the oversimiplifications and skeleton circuits of many college texts.During his career, the late Joe Carr was one of the world's leading writers on electronics and radio, and an authority on the design and use of RF systems. Whether you are looking for a complete self-study course in RF technology,