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Nota di contenuto	Preface; CHAPTER 1 Phase-Locked Systems--A High-Level Perspective; 1.1 PHASE-LOCKED LOOP BASICS; 1.2 CONTINUOUS-TIME CONTROL SYSTEM PERSPECTIVE FOR PLLS (HIGH SNR); 1.3 TIME-SAMPLED PLL SYSTEMS (HIGH SNR); 1.4 ESTIMATION THEORETIC PERSPECTIVE (LOW SNR) FOR PLLS; 1.5 SUMMARY; References; CHAPTER 2 Design Notes; 2.1 SUMMARY OF CLASSIC CONTINUOUS-TIME TYPE-2 SECOND-ORDER PLL DESIGN EQUATIONS; 2.2 CONTINUOUS-TIME TYPE-2 FOURTH-ORDER PLLS; 2.3 DISCRETIZED PLLS; 2.4 HYBRID PLLS INCORPORATING SAMPLE-AND-HOLDS; 2.5 COMMUNICATION THEORY; 2.6 SPECTRAL RELATIONSHIPS; 2.7 TRIGONOMETRY. 2.8 LAPLACE TRANSFORMS 2.9 Z-TRANSFORMS; 2.10 PROBABILITY AND STOCHASTIC PROCESSES; 2.11 NUMERICAL SIMULATION; 2.12 CALCULUS; 2.13 BUTTERWORTH LOWPASS FILTERS; 2.14 CHEBYSHEV LOWPASS FILTERS; 2.15 CONSTANTS; References; CHAPTER 3 Fundamental Limits; 3.1 PHASE MODULATION AND BESSEL FUNCTIONS; 3.2 HILBERT TRANSFORMS; 3.3 CAUCHY-SCHWARZ INEQUALITY; 3.4 RF FILTERING EFFECTS ON FREQUENCY STABILITY; 3.5 CHEBYSHEV INEQUALITY; 3.6 CHERNOFF BOUND; 3.7 CRAMER-RAO BOUND; 3.8 EIGENFILTERS (OPTIMAL FILTERS); 3.9 FANO BROADBAND MATCHING THEOREM; 3.10 LEESON-SCHERER PHASE NOISE MODEL. 3.11 THERMAL NOISE LIMITS 3.12 NYQUIST SAMPLING THEOREM; 3.13 PALEY-WIENER CRITERION; 3.14 PARSEVAL'S THEOREM; 3.15 POISSON SUM; 3.16 TIME-BANDWIDTH PRODUCT; 3.17 MATCHED-FILTERS FOR

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Sommario/riassunto

From cellphones to microprocessors, to GPS navigation, phase-lock techniques are utilized in most all modern electronic devices. This high-level book takes a systems-level perspective, rather than circuit-level, which differentiates it from other books in the field.
