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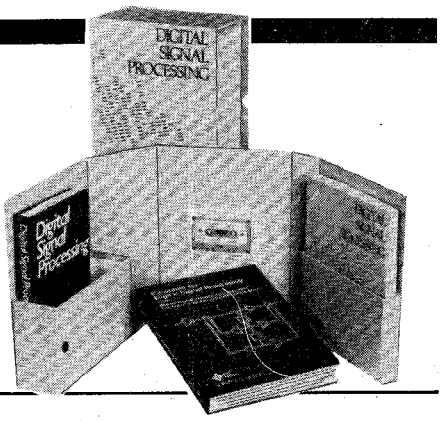

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Introduction To Digital Speech Processing

A comprehensive new course on one of the fastest growing areas of the electronics industry—man-machine communication by voice.

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Course Outline: The Sounds of Speech; Acoustic Phonetics; Speech Production and Perception; Lossless Tube Models; Time-Domain Characteristics of Speech; Waveform Coding of Speech; Spectral Analysis and Pitch Estimation; Linear Prediction of Speech; Speech Synthesis; Computer Recognition of Speech.
Earn 8 CEAUs.

ILP CONTAINS:
Study Guide, Audio Cassette: C-90, Examination Request Forms.
Digital Processing of Speech Signals. Written by L.R. Rabiner and R.W. Schafer.
Speech Analysis, an IEEE PRESS Book of Selected Reprints. Editors: R.W. Schafer, John D. Markel. 480 pages.

Digital Signal Processing

An advanced and extensive 400-hour post-graduate program designed for the electronics or computer engineer who is familiar with continuous linear systems theory and wants to extend his knowledge to sampled-data, discrete/digital systems.

The course covers a wide range of fundamental concepts, analysis methods and computer-aided design techniques in digital processing of deterministic and random signals. Numerous graphic examples, many created especially for this course illustrate current applications.

Course Outline: Discrete-Time Signals and Systems; The z-Transform; The Discrete Fourier Transform; Flow Graph and Matrix Representations of Digital Filters; Digital Filter Design Techniques; Computation of The Discrete Fourier Transform; Homomorphic Signal Processing and the Discrete Hilbert Transform; Power Spectrum Estimation in Discrete Random Signals; Effects of Finite Register Length.
Earn 40 CEAUs.

ILP CONTAINS:
Study Guide, Audio Cassette: C-60, Examination Request Forms.
Digital Signal Processing. Written by Alan V. Oppenheim, Ronald W. Schafer. 585 pages.
Programs for Digital Signal Processing, an IEEE PRESS Book edited by the Digital Signal Processing Committee, IEEE Acoustics, Speech, and Signal Processing Society. 592 pages.

Advanced Microprocessors

Update your knowledge through nine independent learning lessons (80 hours) in the latest microprocessor technology with major emphasis on 16-and 32-bit devices. Learn the latest state of the art in single-chip technology for the computers of the future.

Surveys the critical issues, implications, and design considerations of advanced chips. Examines decision-making and design processes involved in using 16-and 32-bit microprocessing units (MPUs). Summarizes and reviews commercially available devices.

Course Outline: Chip Technology; Introduction to Microprocessors; Advanced Microprocessor Architecture; 16-Bit Devices; 32-Bit Devices; Peripheral Chips; Designing with 16-Bit and 32-Bit Devices; Software; Development and Processes.
Earn 8 CEAUs.

ILP CONTAINS:
Study Guide, Audio Cassette: C-60, Final Examination.
Advanced Microprocessors, IEEE PRESS Book Sponsored by the IEEE Computer Society. Editors: Amar Gupta, Hoo-Min D. Toong. 368 pages.

Spread Spectrum Signals and Systems

Introduces the concepts of spread spectrum signals and systems through eight independent learning sessions (80 hours) from basic spread spectrum techniques and theories to design and analysis for complex spread spectrum system design. Learn the advantages and disadvantages of spread spectrum system design and implementation and acquire the necessary technical knowledge and skills to competently design and employ these systems. Military and commerical applications and situations are considered.

Course Outline: Spread Spectrum Signals and Systems; Direct Sequence Systems; Maximal Sequences; Balanced Modulation; Remapping the Spread Spectrum; Initial Synchronization; Noise Figure Cochannel Users; Ranging Techniques; Systems Application and Future Design in Spread Spectrum Systems.
Earn 8 CEAUs.

ILP CONTAINS:
Study Guide, Audio Cassette: C-90, Final Examination.
Spread-Spectrum Systems. Written by Robert C. Dixon. 422 pages.
Spread Spectrum Communications, an IEEE PRESS Special Issue Book, sponsored by the IEEE Communications Society. Editors: Charles E. Cook, Fred W. Ellersick.

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