Literature Watch

ASICs

ASIC design techniques synchronize dual clocks in high-speed designs. *Because current ASIC clock rates exceed 100 MHz, synchronizing distributed clock signals has become a critical factor affecting the functioning of an ASIC.* Rick Hansen, Robert Deming, Vitesse Semiconductor; EDN, 7/8/93, pg 102, 5 pgs.

Development Tools

IC prototyping: When simulation isn't enough. *IC prototyping methods can make first-pass success a likely outcome, not a lucky roll of the dice.* Doug Conner, EDN, 7/22/93, pg 74, 5 pgs.

DSPs

Doppler radar places tight restrictions on floating-point DSP chip selection/configuration. Winthrop W. Smith, E-Systems; Personal Engineering & Instrumentation News, 7/93, pg 61, 3 pgs.

Search continues for a single, best approach to DSP interfacing. *As DSP continues to migrate from the rarefied atmosphere of science to the real world of embedded-computer applications, interfaces for multiprocessing and I/O have become priorities. But balancing performance, price and flexibility provide challenges.* Warren Andrews, Computer Design, 7/93, pg 55, 5 pgs.

Build a custom, 16-bit DSP chip around a fixed-point core. Ray Weiss, EDN, 7/8/93, pg 133, 2 pgs.

Miscellaneous

Putting data on a diet. *A variety of techniques for data compression can ease a variety of problems in storing and transmitting large amounts of data.* Jeffrey Weiss, Doug Schremp, Telco Systems; IEEE Spectrum, 8/93, pg 36, 4 pgs.

The law on reverse engineering. *To stay within the bounds of the chip protection act, the chip copier must prove some innovation was added, and must produce a paper trail.* John G. Rauch, Foley & Lardner; IEEE Spectrum, 8/93, pg 47, 2 pgs.

The future of high precision is fuzzy. Scott B. Rosenthal, MicroSol Corp.; Personal Engineering & Instrumentation News, 7/93, pg 64, 2 pgs.

Pen computers: the next generation. Personal Electronic News (PEN), 7-8/93, pg 32, 4 pgs.

Fuzzy logic to make rapid inroads in the next five years. Tom Williams, Computer Design, 7/93, pg 43, 2 pgs.

Realtime video compression poses challenges to designers and vendors alike. *Chips that implement video compression standards such as MPEG, JPEG, and P*64 could make everything from video phones to video teleconferencing a reality. But are these "designed-by-committee" solutions the best approach?* Jeffrey Child, Computer Design, 7/93, pg 67, 5 pgs.

Larry Mowatt on: multichip modules. Larry Mowatt, Texas Instruments; Computer Design, 7/93, pg 115, 3 pgs.

Peripheral Chips

Battery-based systems demand unique ICs. *Battery charger needs for portable systems create unique IC controllers.* Frank Goodenough, Electronic Design, 7/8/93, pg 47, 8 pgs.

The Pentium gets GaAs. Warren Andrews, Computer Design, 7/93, pg 33, 3 pgs.

Processors

PowerPC performs for less. *With the PowerPC, the IBM/Apple/Motorola alliance aims to shatter the notion that RISC is strictly a workstation technology. This new 32-bit CPU, which Apple and IBM hope to place in millions of desktop PCs within the next two years, is half the price of Intel's new Pentium processor and nearly five times as fast for some operations. Slated to eventually run Mac, Windows, OS/2, and Unix software, the PowerPC makes the most compelling case yet for putting RISC on the desktop.* Tom Thompson, Byte, 8/93, pg 56, 9 pgs.

SPARClite integrates 32-bit RISC processor with data and instruction caches and DMA. Ray Weiss, EDN, 7/22/93, pg 129, 1 pg.

Philips skinny-DIP 8051 µC streaks to 40 MHz. Ray Weiss, EDN, 7/22/93, pg 130, 1 pg.

4-bit µCs have LCD drives or 8-bit ADCs. *Hitachi 4-bit, Compact 400 µCs, and HD40341 ADC µC.* Ray Weiss, EDN, 7/22/93, pg 132, 2 pgs.

EDN's top 200 products: microprocessors. EDN, 7/22/93, pg 138, 4 pgs.

Unified pipelined technology puts RISC near $1/SPECint. Jeffrey Child, Computer Design, 7/93, pg 48, 3 pgs.

8-bit Z8 µC drives TV on-screen display. Ray Weiss, EDN, 7/8/93, pg 134, 2 pgs.

System Design

Mixing signals & voltages on chip. *The rapid development of personal communications is driving the integration of 3- and 5-V analog and digital circuitry on a single chip.* Lauren Brust, Mean-Sea Tsay, AT&T Bell Laboratories; IEEE Spectrum, 8/93, pg 40, 4 pgs.

