

Geoffrey T. Cook

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Primary Area of Specialization: Analog Circuit Design to 500 MHz  
Secondary Area of Specialization: Digital Circuit Design, Discrete Logic  
Education: A.S. in Electronics, 1965, S.B.C.C.

Thirty Years Experience In:

Capacitive probe electronics, DC/DC converters for low noise systems, photo multipliers, avalanche photo diodes, crystal filters, data acquisition systems, CCD camera design, lock in amplifiers, isolation transformers, PC board design for low noise and high speed circuits.  
High power, low distortion amplifiers; demodulators; frequency and phase lock loop velocity servos; low distortion oscillators; feed forward harmonic cancellation; switching and linear power supply design; primary control circuits utilizing SCR's and Triacs; switching power amplifiers; power and signal transformer design; grounding architecture for complex systems; signal conditioning circuitry for an LVDT (patent applied for); acoustics; loudspeaker design; time-delay spectrometry system analysis; electronic packaging.

Most Recent Projects:

1/03 to 1/04 Lab Vision Corporation, 47790 Westinghouse Drive, Fremont, CA 94539  
Designed electronics for the LV9 slide staining machine with temperature servo .01C resolution and data acquisition system for re-agent temperature control [30C to 105C], with 5-axis robot, using stepper motors.

97 to 7/02 ADE Corporation, 80 Wilson Way, Westwood, MA 02090-1806  
Designed avalanche photo diode electronics & data acquisition system for AWIS 100 nanometer laser surface roughness scanner. Capacitive probe electronics & data acquisition system for E- Squared surface profiler and AFS 3220 Wafer-Measurement System, 10A resolution. Read & write electronics & data acquisition system for M2 Magnetic Mapper for computer hard disc quantification.

7/96 to 7/97 ADE Technologies West, 1525 McCandless Drive, Milpitas, CA 95035  
Designed electronics interface circuitry, servo system, and package concepts for "Autogager 1500/3000", a fully automated thickness measuring and sorting system for hard disc media. Special grounding and isolation techniques were utilized, resulting in a two and a half time improvement in repeatable disc thickness measurement.

3/89 to 6/30/96 University of California, Physics Department, Santa Barbara, CA

Designed high speed CCD camera for looking at the light of distant stars, utilized a special delay line KTC noise cancellation circuitry. Low distortion microwave mirror servo system, 5 channel low noise lock in amplifier for Cosmic Background Radiation experiments in Antarctica. Data acquisition system utilizing high resolution V to F converters & low noise pre amps. Special power supply isolation techniques used. Designed 400 Hz C-core power transformers with primary to secondary capacitance of less than 5pf. Other projects necessary for the Cosmic Microwave Background Radiation science project. Low noise charge amplifiers. 100 volt 1 nanosecond rise time pulse amplifier for vertex detector test project. 10kV pulse amplifier using planar triodes, for laser group. Taught analog electronics to students in the Ph.D. program at UCSB.

9/87 to 6/88 Seymour Duncan Corp, 601 Pine Ave, Goleta, CA 93117  
Chief Engineer, Manager

Set up Engineering Department of five people & equipment. Designed high gain musical instrument amplifiers, tube & solid state to 700 watt. Special grounding & packaging techniques utilized.

1985 Santa Barbara Laboratories, Goleta, CA 93117

Designed telecommunications circuits, including half duplex speakerphone & audio compression electronics. Patent applied for.

1985 Brown Medical Corp., 1035 Cindy Lane, Carpinteria, CA 93013

Designed a primary controlled switching power supply, meeting UL-544, a low- noise subtraction differentiator, and low drift scale electronics.

1981 to 1984 Sloan Technology Corp., 602 E. Montecito St., Santa Barbara, CA 93103

Designed analog electronics for the Dektak IIA, 3030 Surface Profile Measuring System, and vacuum gauge circuitry.

Additional references on request.