

## **BRYAN A. WEAVER Ph.D.**

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West Chester, PA 19380

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Accomplished engineer having more than 30 years of experience in the design, development, analysis, operation and troubleshooting of complex power electronics, high power RF, analog and microwave systems.

- Multi-disciplined engineering experience in the design and development of large scale power electronics and RF power systems for the military, broadcast, scientific and medical industries.
- Hands on experience with buck, forward, full-bridge, push-pull and boost switching power supply topologies.
- Designed, developed, commissioned, and consulted for a world-class product line of high power broadcast transmitters, vacuum tube modulators and solid-state modulators / power supplies.
- Regularly performs design reviews and marketing presentations world-wide.
- Named inventor / co-inventor on five U.S. and numerous foreign patents for broadcast modulator systems.
- Founded consulting company.

### **EDUCATION**

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Ph.D. – Electrical Engineering  
M.S.E.E. – Electrophysics  
DREXEL UNIVERSITY, Philadelphia, PA

B.S. Electrical Engineering Technology  
PURDUE UNIVERSITY, West Lafayette, IN

### **PROFESSIONAL EXPERIENCE**

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**HIGH POWER SOLUTIONS LLC – West Chester, PA** (2005 – Present)

*Consulting company providing power electronics and RF engineering services, advice and solutions to the military, broadcast, scientific and medical industries.*

#### **Consultant**

- Lead RF engineer for a High Power Microwave directed energy weapon utilizing multiple 80 kW IOTs.
- Consultant to 40 kV high voltage power supply development project for 80 kW X-Band transmitter for NASA / JPL Deep Space Network.
- Consultant to 100 kV – 20 A high voltage power supply project for linear accelerator application.
- Project Engineer for 100 kW HF (shortwave broadcast) transmitter modernization program.
- Power Electronics and Analog Lead for sonar system technical upgrade program.
- Consultant to Fire Alarm Panel power supply development program.
- Consultant to high-voltage to low-voltage converter for TWT to solid-state power amplifier retrofit.

**BAE SYSTEMS IEWS – Lansdale, PA** (2001 – 2005)

*Defense contractor specializing in the design, development and manufacture of electronic attack and electronic counter measure systems.*

#### **Senior Principal Electrical Engineer**

Lead electrical engineer for the design and development of power electronics systems for next-generation airborne radar jamming transmitters.

- Developed and integrated the power electronics system for an airborne radar-jamming transmitter including prime power conditioners, low and high voltage DC-to-DC converters for TWT, and solid-state amplifiers.
- Committee member, subject matter expert and power electronics mentor for the division-wide Power Systems and Signal Integrity Advisory Group.

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**VIBRATION AND SOUND SOLUTIONS Ltd. – Alexandria, VA**

**(1998 – 2000)**

*Defense contractor specializing in the research and development of systems that reduce vibration and acoustically coupled noise.*

**Senior Electrical Engineer**

Lead engineer responsible for the manufacture, testing, and characterization of power supplies and control electronics that reduce submarine machinery raft vibrations via magnetic levitation.

- Designed low noise precision current source for driving full-scale electromagnets.
- Designed and developed control electronics for an industrial foundry vibration control system.
- In-field installation and testing of quarter-scale submarine machinery raft model.

**ARBITRON – Columbia, MD**

**(1997 – 1998)**

*Specializing in the collection and analysis of radio station audience profiles.*

**Senior Electrical Engineer**

Member of multi-disciplinary team that designed pager-sized sound measurement and analysis device utilizing Analog Devices ADSP2185L digital signal processor.

- Designed base unit power supply to recharge battery and provide link to centralized data collection point.

**CONTINENTAL ELECTRONICS CORPORATION – Dallas, TX**

*Specializing in the design, development and manufacture of broadcast transmitters and high power RF systems.*

**Principal Engineer**

**(1994 – 1996)**

Managed multimillion-dollar worldwide project retrofitting modulator systems into high power broadcast transmitters. Prepared and presented to Los Alamos National Laboratories, feasibility studies for converting broadcast modulator system to megawatt level switching power supplies for linear accelerators.

Designed and developed:

- 95 kV, 21 Amp solid-state switching power supply for klystron amplifier.
- Conceptual design of 100 kW to 1200 kW MOSFET based medium wave broadcast transmitter product line.

**Senior Engineer**

**(1984 – 1993)**

Lead design, development and systems engineer for the High Power Broadcast department. Responsible for all technical aspects of product line that included radio broadcast transmitters and power electronics systems ranging from 100 kW to multiple-megawatts, DC to HF.

Designed and developed:

- Product line of IGBT based switching power supplies/modulators which produce greater than 2 MW.
- Product line of 300 kW and 600 kW medium wave broadcast transmitters with vacuum tube RF amplifier.
- Process for broadcasting SSB transmissions on standard AM transmitters.

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**ERBTEC ENGINEERING – Boulder, CO**

**(1993 – 1994)**

*Specializes in the design development and manufacture of RF amplifiers for MRI systems.*

**Senior Engineer**

Designed and developed power electronics and RF amplifiers for use in medical and industrial equipment.

- Designed, developed and tested a 4 kW switching power supply for a solid-state MRI RF amplifier.
- Designed, developed and tested an 8 kW, 42 MHz vacuum tube linear RF amplifier for MRI system.
- Designed 30 kW VHF vacuum tube RF pulse amplifier as power source for industrial laser application.

**SUSQUEHANNA BROADCASTING KLIF / KPLX – Dallas, TX**

**Chief Engineer**

**(1996 – 1997)**

**Staff Engineer**

**(1981 – 1984)**

Increasing levels of responsibility for the operation and maintenance of the radio stations' studio and transmitter facilities.

**PROFESSIONAL AFFILIATIONS / MEMBERSHIPS**

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- Senior Member IEEE Power Electronics, Power & Energy and Microwave Theory & Techniques Societies

**HONORS and ACCOMPLISHMENTS**

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- Eta Kappa Nu – Electrical and Computer Engineering Honors Association
- Awarded best paper by IEEE Broadcast Technology Society for presentation on solid-state modulator.
- Obtained FCC First Class Radiotelephone and Advanced Class Amateur Licenses in 1975.