

# An Introduction to Bladewerx LLC



**bladewerx<sup>TM</sup>**

Cutting-Edge Technology for Instruments and Measurement Applications

# What We Do

---

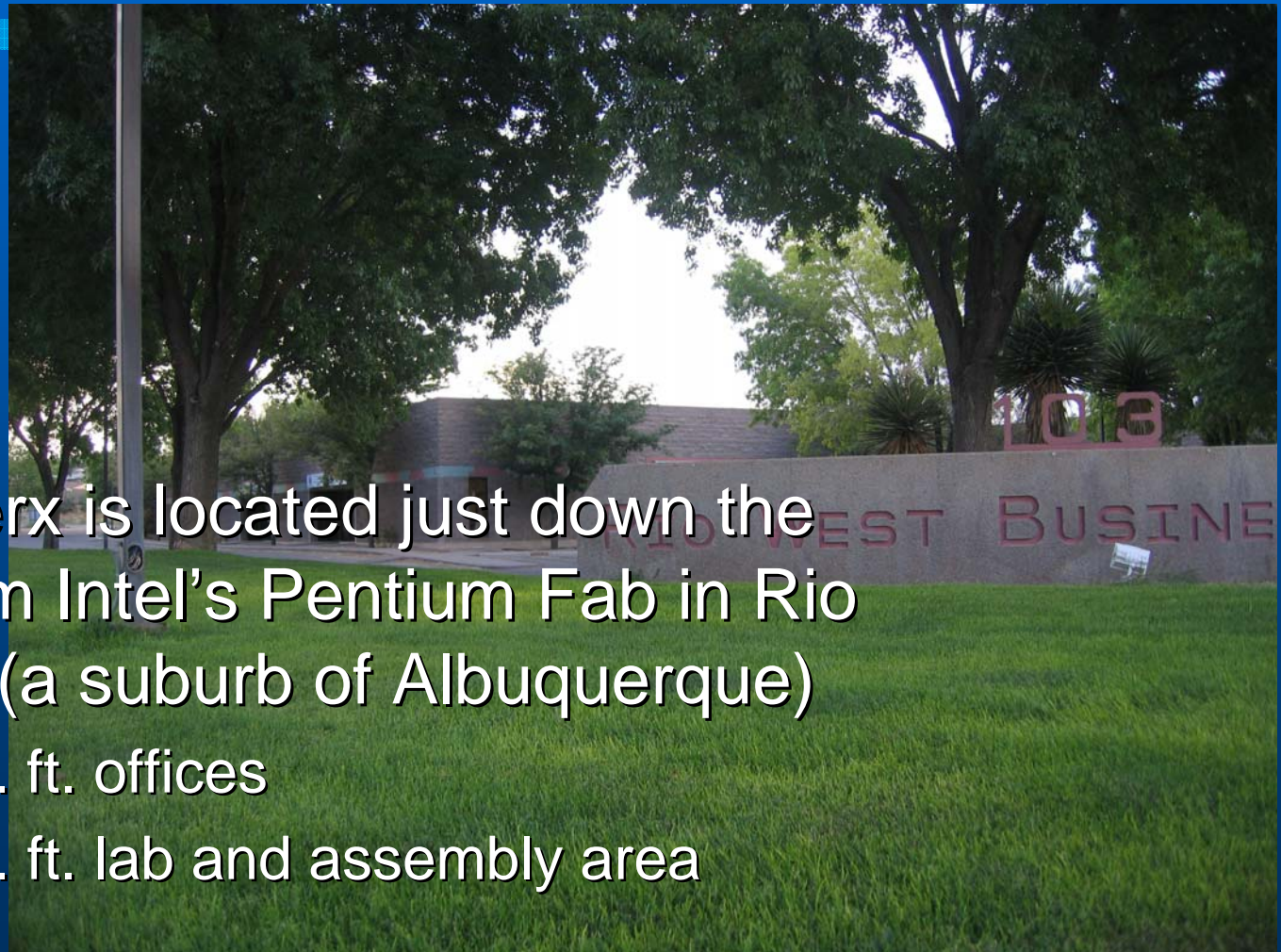
- Bladewerx is a nuclear instrumentation company specializing in designing, manufacturing, and supporting products that solve specific customer radiation monitoring needs

# Company History

- **2001:** Began life providing software consulting to instrumentation vendors. Our corporate headquarters: a garage on the West Mesa in Albuquerque.
- **2003:** Bladewerx introduces the industry's first 'wearable' alpha CAM—the *SabreBZM™* Breathing Zone Monitor.
- **2004:** Our first profitable year (and the trend continues!)
- **2005:** We relocate to our current palatial facility in Rio Rancho

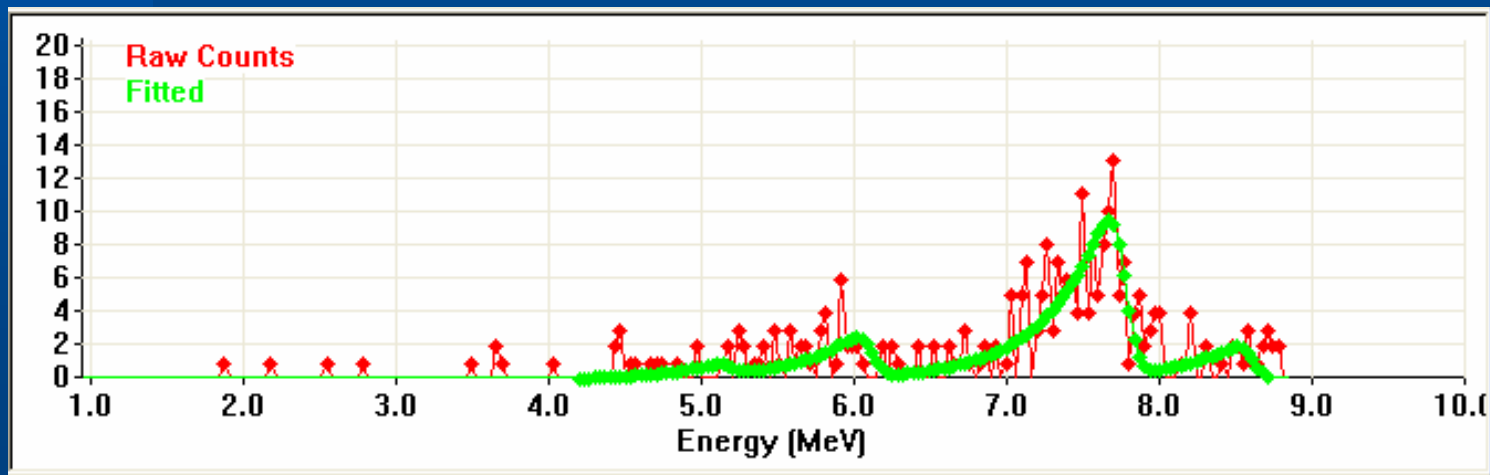
# Rio Rancho, New Mexico

- Bladewerx is located just down the road from Intel's Pentium Fab in Rio Rancho (a suburb of Albuquerque)
  - 800 sq. ft. offices
  - 800 sq. ft. lab and assembly area



# Technology History

- Bladewerx developed the software for the first commercial instrument that employed real-time peak fitting for radon compensation in an alpha air monitor
- The SabreBZM was the first commercial use of a PocketPC in a rad-protection instrument



# Bladewerx Expertise

- Over 50 years of combined experience designing and building radiation monitoring instrumentation
- Unique ability to combine hardware and software solutions in compact and economical systems
- Alpha air monitoring and low-level counting statistics
- Development of high performance data analysis algorithms such as radon background compensation through peak-shape fitting to enable state-of-the-art sensitivity in air monitoring applications
- Incorporation of PDA's (as well as WinCE embedded boards) into portable instrumentation systems capable of data collection, analysis, and archiving
- A design philosophy that accommodates rapid technology change in commercially available PDAs and embedded boards
- Products that solve specific customer needs coupled with a high level of support

# David K. Baltz, Chief Technologist



- David Baltz has over twenty years experience in software design and development, and was a design engineer for Thermo Electron for 13 years before leaving to start his own company. He was the founder and president of Metalman Corporation, an innovator in the mechanical computer-aided-design market. Before starting Bladewerx, Mr. Baltz served as a consultant to Thermo Electron, spending three years developing the instrument and client software for the state-of-the-art Thermo Eberline Alpha-7 continuous air monitor.

# Don Hanna, Managing Partner



- Don Hanna brings to Bladewerx experience of more than twenty years in design engineering, engineering management, and general management. He is past-President of National Nuclear Corporation, Thermo Eberline and two other Thermo Electron Corporation subsidiaries. A Kansas State graduate in electrical and nuclear engineering, Don brings to Bladewerx a solid technological knowledge base in the radiation protection and measurement field, complemented by critical management experience.



# William Brown, III



- Bill Brown adds over 30 years of electronics design experience to the product development arsenal of Bladewerx. At home in both analog and digital design, Mr. Brown spent 9 years with Thermo Electron before taking over design and development at Santa Fe-based, *Eco Sensors*, a leading manufacturer of ozone monitoring sensors. He was the lead designer of the Bladewerx *SabreMCA™* multi-channel analyzer.

# Bladewerx Family

- **Technician**
  - Kyle Thomas, completing an Associate degree in Electronics Technology
- **Field Service Engineer**
  - Al Briggs with 30 years engineering experience
- **Accounting and Purchasing**
  - Roxanne Baltz
- **Key Vendors include BetaTron Electronics, Precision Components, CNC Lathe, and countless Web-based component providers**



# Bladewerx Products

- Home Grown
- Collaborations



# Bladewerx Designed and Built Products

- **SabreBZM™** Breathing-Zone Monitor
- **SabreAlert™** Portable Workplace Monitor
- **SabreASC™** Alpha Sample Counter
- **SabrePSC™** Portable Sample Counter

*All products feature the Bladewerx isotope peak-fitting algorithm that provides significantly improved performance over regions-of-interest and tail-fitting methods for radon daughter compensation*

# *SabreBZM*<sup>™</sup> Breathing Zone Monitor

- Compact and “wearable” at 2.6 lbs
- Performs both fast-responding (Acute) and high-sensitivity (Chronic) measurements with typical sensitivities of 45 DAC-Hr (Acute) and 1.5 DAC-Hr (Chronic)
- 3 LPM internal pump
- 8 hours battery operation
- Voice annunciation of status changes and dose provide hands-free operation
- DAC, DAC-Hr, and spectrum logging, selectable SI units
- Wireless 802.11b network option for RadNet compliance



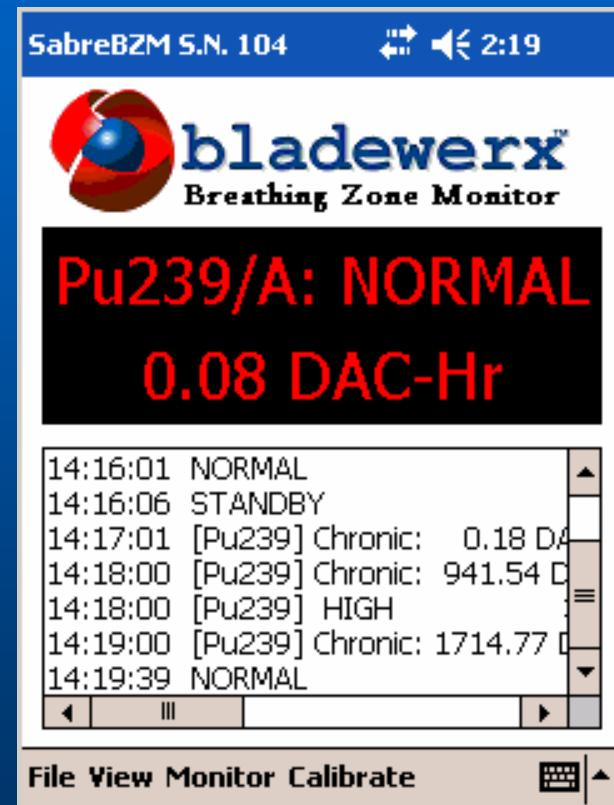
# *SabreAlert™* Workplace Monitor

- All the features of the *SabreBZM* including:
  - High-performance sample collection head
  - Available with 3 LPM or 6 LPM internal pump
  - Easily portable at 5.2 lbs including internal battery
  - Can be plumbed to house vacuum or external pump.



# Typical *SabreBZM™* and *SabreAlert™* Display

- Isotope of interest (or radon progeny) current reading and status
- Selectable display of dose, concentration and activity
- Peak Acute readings
- Battery life indication
- View spectrum



# *SabreASC™* Alpha Sample Counter

- Activity determinations for up to two different isotopes along with our unique isotopic analysis feature that “matches” an unknown peak to a known list of isotopes
- Automatic count time determination with complete data and spectrum logging
- Configurable display with three independent windows for activity/status; real-time strip-chart display of activity, detection limit, action level, and elapsed time; and spectral display.





# Typical SabreASC™ Display



# *SabrePSC*<sup>™</sup> Portable Sample Counter

- All the features of the *SabreASC* plus
  - Complete counting system built-in to a rugged carrying case
  - Rechargeable battery
  - PDA running the *SabrePSC Assistant Software*



# Collaboration Projects

- Custom software incorporating Bladewerx *SabreMCA* and peak fitting algorithms into the client's CAM product
- Custom hardware and software design for a portable survey instrument implementing the client's specific needs for simplicity and data logging
- Custom software design interfacing to the client's ion chamber to enable rad mapping and data logging
- Custom data analysis software for a client's neutron dosimeter
- Custom version of the *SabreAlert* with communication software enabling remote data acquisition

# Who do we work with?

- Our customers include most of the DOE Laboratories, D & D sub-contractors, as well as foreign entities like ARPANSA (Aus.)
- We have provided design services and/or co-developed products with several companies including Thermo, Lab-Impex, Technical Associates, XIA, and Bartlett Services.

# And, what's with the name?



Mr. Baltz, not wanting to name a company after himself, went back to the distant past when he knew a wild young engineer, moonlighting as a competition hang-glider pilot and sporting a Mohawk. The company is named after that young rebel who went by the name, *Bif Blade*.

**FOR MORE INFO...**

***Visit Bladewerx on the internet at:***

**[www.bladewerx.com](http://www.bladewerx.com)**