PA&E Overview
March  2016
Industries Served

- **Defense**
  - EW Systems
  - Missile Guidance
  - IR Systems

- **Space**
  - Commercial
  - Military
  - Satellites

- **Medical**
  - Neuro-stimulation
  - Cochlear Implants
  - Endoscopes

- **Energy**
  - MWD
  - LWD
  - Next Gen D&I
Key Products

• High Performance Hermetic Packaging
  − Industry leading reliability
  − Industry leading light-weight technology
  − High thermal performance
  − High Performance material expansion management

• High Performance Hermetic DC, RF/Microwave Connectors
  − Special emphasis on laser weld attachment
  − Unique ability to handle high voltage and high current
  − Focus on ultra-reliability
Key Products, Cont’d

• Hermetic Sight and RF Waveguide Windows
  - Endoscope and IR applications
  - RF Applications using glass

• Explosively Bonded & Formed Metal
Key Capabilities

• **Hermetic Sealing**
  - Industry Proven Kryoflex Ceramic
  - High Performance Glass Sealing
  - Metal to Metal Brazing
  - Ceramic to Metal Brazing
  - High Performance Soldering

• **Laser Welding**
  - Ultra-Precision Control
  - Connector to Package Integration
  - Explosion Bonded Bushing Integration
Key Capabilities

- Design Engineering
  - Custom Connectors
  - Custom Packaging
  - Unique Value-Add

- Miniaturization
  - Ultra-Small Hermetics
Key Capabilities: Precision Machining

Close-Tolerance CNC Machining in:

- Aluminum
- Titanium
- Stainless Steel
- Iron-Nickel Alloys
- Composite Materials
- Plastics
Key Capabilities: On-Site Plating

High-Performance Electronic Plating

- **Electrolytic Nickel**
  - Plate Per - QQ-N-290 Class 1 (Thickness)
  - Plate Per - QQ-N-290 Class 2 (Thickness)
- **Electroless Nickel**
  - Plate Per - AMS-C-26074 Class 4 (Thickness)
  - Plate Per - AMS-C-26074 Class 3 (Thickness)
  - Plate Per – ASTM B733 Type IV, Class 4 (Thickness)
  - Plate Per – ASTM B733 Type IV, Class 5 (Thickness)
  - Plate Per – ASTM B733 Type I, Class 4 (Thickness)
  - Plate Per – ASTM B733 Type I, Class 5 (Thickness)
- **Electrolytic Gold**
  - Plate Per – ASTM B488 Type I, Code A (Thickness)
  - Plate Per – ASTM B488 Type I, Code C (Thickness)
  - Plate Per – ASTM B488 Type II, Code C (Thickness)
  - Plate Per – ASTM B488 Type III, Code A (Thickness)
  - Plate Per – ASTM B488 Type III, Code C (Thickness)
  - Plate Per MIL-DTL 45204, Type I, Grade A (Thickness)
  - Plate Per MIL-DTL 45204, Type I, Grade C (Thickness)
  - Plate Per MIL-DTL 45204, Type II, Grade C (Thickness)
  - Plate Per MIL-DTL 45204, Type III, Grade A (Thickness)
- **Conversion Coating**
  - Chemical Conversion Coat per MIL-DTL 5541, Type I, Class 1A
  - Chemical Conversion Coat per MIL-DTL 5541, Type I, Class 3
Key Capabilities: Soldering & Wiring

J-Standard Operators and Instructors On Site

- J-STD-001 Compliant
- Termination and Cabling
- Vacuum and Cover-Gas
Key Capabilities: Brazing

Vacuum and Cover-Gas Brazing Equipment On-Site

- Composite Metal Structures
- Active Metal Brazing
- Ceramic to Metal
- Diffusion Bonding
Key Capabilities: Conformance Testing

- Electrical Testing - per MIL-STD-202, Method, 301 and 302
- Thermal Cycle Testing - per MIL-STD-883, Method 1010
- Thermal Shock Testing - per MIL-STD-883, Method 1011
- X-Ray Fluorescence Testing - per ASTM-B568
- Metallurgical Testing
- Push-Out Strength Testing
- Vibration Testing
Learn More:

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