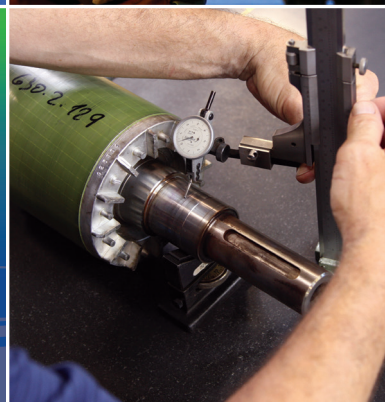
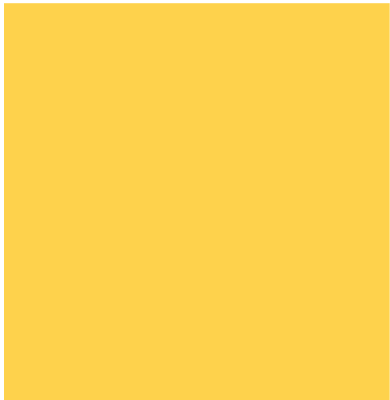
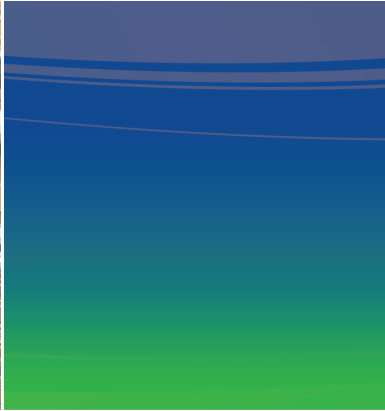


# Component Life Cycle Solutions

New technology. Sustainment. Obsolescence.



ISO 9001:2008  
CAGE 5N884

[psi-repair.com](http://psi-repair.com)



**PSI REPAIR SERVICES, INC.**

## Sample of repair and performance-enhancing redesign capabilities:

- Terminals/Monitors
- Pressure Controllers
- Circuit Card Assemblies (CCAs), Custom Keypads, Flex Circuits, Vibration Sensors, Fault Isolators
- Audio Video – Camera, Mixers, Controllers, Monitors
- Power Systems – Static Inverters/Converters, Power Supplies, Engine Processor Units
- Radar/Sonar – Deflection Modules, Pulse Grid Oscillators, Grid Cavity Circuitry, Unmanned Threat Emitters



## Past Performance

PSI has an extensive history of supporting the following programs:

- ATCALs
- E6-B
- T39
- Mini Mute
- IFF
- Range Threat
- F16
- MK162
- B1 and B2
- P-3
- AN/SQQ-32

## The PSI Difference

For over two decades, PSI Repair Services has provided the military with reliable, cost-effective component life cycle solutions. From new technology, to sustainment, to obsolescence, PSI is the industry expert for component repairs, component remanufacturing and component replacement services.

PSI's world-class facility is home to the most advanced equipment in the market today for **detecting hard part failures**, as well as **parts that have degraded due to stress**. Our Custom Test Program identifies component failures down to the microchip level. It even detects which components are likely to fail in the near future, **saving you valuable time and money**.

**Our custom Test Program identifies component failures down to the microchip level—it even detects which components are likely to fail in the near future.**

Our highly skilled workforce develops remanufacturing and testing solutions for components that haven't been seen before on approximately 1/3 of incoming units. We write programs and code to detect hard part failures, exercise 100% of the part's memory and test to the OEM's programs. Best of all, **PSI provides fast turnaround** for sustainment components – typically, days or weeks, not months or years.

## PSI's component life cycle solutions include:

### Asset Remanufacturing

Available for electronic boards, controllers and power supplies (asset remanufacturing is also available for precision mechanical parts/assemblies like pumps and ball screws).

### Custom Engineered Assets

Legacy product manufacturing, low volume product manufacturing, as well as first article/prototype design. Our knowledgeable engineers often make design improvements to old components to better fit the customer's application, resulting in significant cost-savings and performance improvement.

### Surplus Management

Options can include newer, more reliable technology, including Commercial-Off-The-Shelf (COTS) parts.

## Let PSI answer your challenging sustainment questions

### Why Do Traditional Repair Methods for Legacy Electronics Fail to Meet Expectations?

1. They don't tell you what has failed down to the microchip level.
2. They only test what the test program tells them to test—which is not everything.
3. They don't detect stressed/degraded parts.

With the military tasked to cut \$100 billion from the budget over the next five years\*, it is imperative that the military and prime contractors spend money wisely in support of legacy assets.

\*Defense Secretary Robert Gates announces major military budget cuts, aiming to cut spending by \$100B; New York Daily News, August 9, 2010

### Need to increase the efficiency of your Line Replaceable Units (LRUs)?

PSI provides the option to replicate an entire assembly or subassembly with current, more reliable technology, including Commercial-Off-The-Shelf (COTS) solutions.



### Running out of critical spare parts?

PSI has the ability to remanufacture from:

- “A” or “F” condition components
- Drawings and/or schematics
- Photos

### Don't have Intellectual Property on your electronics equipment?

No problem. PSI has the ability to create a **Level 3 Data Package**, which gives you the option to perform repairs organically or open-bid their requirements.



# Case Studies—Our Success Stories

**PSI Repair Services tackles your toughest challenges.**

## **PSI detects stressed components that were overlooked by a major prime contractor's in-house test system**

**Challenge** – A major prime contractor sent PSI a circuit card assembly (CCA) for repair that had already passed their own in-house test inspection. To their surprise, PSI discovered 8 stressed microchips and one hard-failure microchip. If they were not replaced, MTBFs would decrease and maintenance would increase. As a result, the availability of warships, airplanes, ground vehicles and support equipment would decrease, which would ultimately jeopardize critical missions.

**Solution** – PSI's state-of-the-art equipment proved that the prime contractor's in-house system test did not detect components that were degraded by stress/usage. PSI made the repairs, which saved the contractor crucial time and money in future repairs.



## **PSI puts an end to excessive servo motor failures**

**Challenge** – A customer was experiencing a high rate of servo motor failures, to the tune of \$7,200 per month + downtime.

**Solution** – PSI performed root cause analysis and determined that shock was the main reason for failure. PSI designed and manufactured a buffer plate to isolate the motor. Failures significantly decreased to one motor per year.

**Savings** – \$82,800 for the first 12 months.



## **PSI improves part design and saves customer \$90k**

**Challenge** – A customer was experiencing a high rate of servo amplifier failures. Even after the customer sent the amplifiers to the OEM for repair, the parts kept failing.

**Solution** – PSI performed a root cause analysis and determined that the failures were due to inefficient design and inferior parts. PSI upgraded the existing capacitors, IC chips and connectors with components selected to provide longer life.

**Result** – Amplifier failures were reduced from 168 per year to 70, saving the customer \$90,000 in repair costs alone.



## **PSI solves spare part dilemma and saves customer \$1.2M**

**Challenge** – A customer was losing \$100k per month in downtime costs due to the failure of obsolete electronics in a Portable Air Traffic Control System, for which they had no spares.

**Solution** – PSI developed a Level 3 Data Package, created prototypes for testing, and then built the final production units.

**Result** – In the first year, the customer used the spares to eliminate downtime and saved \$1.2M.



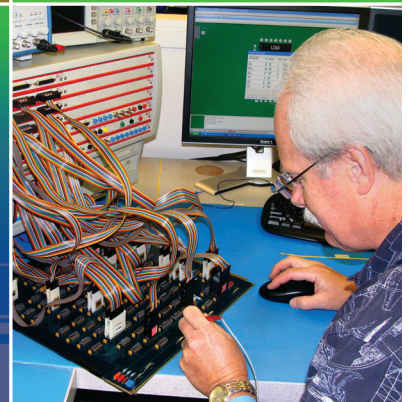
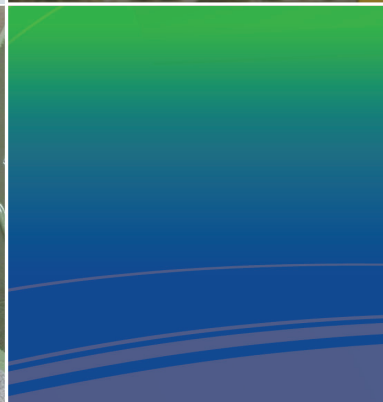
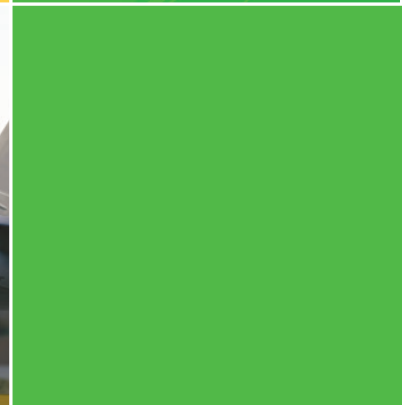
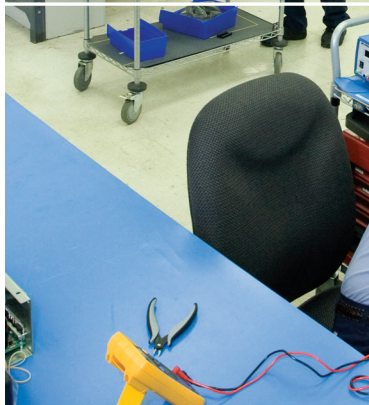
## **PSI brings obsolete vacuum pumps back to like-new condition and saves customer \$370k**

**Challenge** – A major prime contractor wanted to extend the life of five obsolete vacuum pumps, which had been in operation for over 30 years, but needed major reconditioning to run for the next 30 years.

**Solution** – PSI disassembled the pumps and did a thorough inspection on each unit. As expected, there was significant wear and tear in each unit. As a result, PSI did a complete remanufacture on each pump. In some instances, PSI was able to clean and reuse original components, customize solutions for units that were missing components, as well as replace obsolete components with newer, more efficient parts, which improved upon the original design. In the end, PSI brought all five pumps back to like-new condition, at a total cost below \$130,000.

**Savings** – The cost to retrofit these obsolete pumps would have cost in excess of \$500k, so PSI saved the customer a minimum of \$370,000 by remanufacturing them.





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(800) 325-4774

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PSI Repair Services, Inc.  
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