

# Walker Silva

## Senior Power and Analog Electrical Engineer

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📍 Lowell, MA 01852

### STRENGTHS

- 🔧 **Laboratory problem solving**  
Bench evidence turned ambiguous EMI and fault reports into clear corrective actions, giving integration teams confidence.
- ⚡ **Power architecture**  
Conversion, protection, isolation, and distribution choices moved from requirements into buildable defense hardware.
- ♥ **Simulation discipline**  
PSPICE and MATLAB models surfaced stress and stability risks early, before costly hardware changes reached production.
- 👥 **Small team leadership**  
Design reviews stayed focused on technical commitments, schedule pressure, documentation quality, and practical decisions.
- 🔧 **Supplier coordination**  
Component and manufacturing discussions kept engineering intent aligned with availability, acceptance criteria, and production needs.

### SKILLS

Analog electronics

Power electronics   Power systems

Power conversion

Requirements development

Laboratory testing

Production support

Technical documentation

Supplier coordination

Circuit simulation   Control systems

Power distribution

### SUMMARY

Senior electrical engineer with 9 years designing, analyzing, integrating, testing, and supporting **analog electronics**, **power electronics**, power systems, **power conversion**, distribution, and control hardware for aerospace and defense programs. Hands on laboratory work covers AC/DC, DC/DC, DC/AC, switching supplies, PFC, ZVS, resonant circuits, magnetics, EMI control, protection, isolation, fault reporting, and high current distribution. Uses PSPICE and MATLAB/Simulink for modeling, simulation, stability review, component stress analysis, and control loop development. Leads small engineering teams through requirements development, design reviews, integration, **production support**, supplier coordination, and technical reporting. Active DoD Secret Security Clearance supports defense hardware development, disciplined verification, and secure program delivery.

### EXPERIENCE

#### Senior Power Electronics Engineer

Northstar Defense Electronics 📅 January 2023 - Present 📍 Lowell, MA

Leads analog and power architecture for defense electronics assemblies, guiding requirements translation, simulation, laboratory verification, documentation, production transition, and supplier coordination.

- Translated system requirements into power conversion, protection, filtering, and control architectures for production hardware.
- Simulated **switching supplies** in PSPICE and **MATLAB/Simulink**, exposing transient, stability, and component stress risks.
- Directed laboratory verification, resolving EMI, grounding, synchronization, fault protection, and **high current distribution** issues.
- Guided a small engineering team through design reviews, **technical commitments**, documentation, schedule, and program risk.
- Coordinated procurement, manufacturing, and suppliers around component choices, buildability, and controlled production release.
- Produced requirements traceability, design analyses, **test** reports, and troubleshooting records for program reviews.

#### Electrical Engineer III

Granite Peak Aerospace Systems 📅 May 2020 - December 2022 📍 Bedford, MA

Designed airborne power distribution and analog control circuitry while connecting simulation, bench evidence, environmental testing, production methods, and technical reporting.

- Designed airborne power distribution with **low voltage** rails, isolation, protection, **fault reporting**, and redundant paths.
- Correlated PSPICE converter and filter models with bench measurements, refining component selection and control loop performance.
- Developed **magnetics** and **filters** using harmonic, short circuit, EMI, and stress analyses for design margins.
- Diagnosed **integration** and environmental test anomalies, isolating root causes and implementing controlled design corrections.
- Clarified component test methods and acceptance criteria with production teams during recurring assembly investigations.
- Authored **technical reports** linking requirements, analysis, laboratory evidence, and residual risk for stakeholders.

#### Power Systems Engineer

Vector Maritime Controls 📅 July 2017 - April 2020 📍 Quincy, MA

Developed shipboard power and control electronics, supporting conversion, distribution, grounding, isolation, laboratory verification, failure analysis, and production documentation.

- Developed shipboard **AC/DC** and DC/DC circuitry for **line voltage**, high current distribution, grounding, isolation, and protection.

Hardware verification

Defense hardware   Integration

## LANGUAGES

English   Native

Spanish   Intermediate

## MY CAREER



● Senior Power Electronics Engineer at Northstar Defense Electronics (3.8 Years)

● Electrical Engineer III at Granite Peak Aerospace Systems (2.6 Years)

● Power Systems Engineer at Vector Maritime Controls (2.8 Years)

- Analyzed switching supplies and **resonant circuits** through simulation and bench testing, documenting limits and corrective actions.
- Supported servo and motor control electronics with **digital feedback** interfaces and **command generation** circuitry.
- Created repeatable laboratory setups for power and analog boards, improving design verification and production troubleshooting.
- Investigated component failures through schematic review, **stress analysis**, and bench evidence, isolating likely mechanisms.
- Maintained drawings, test procedures, and technical notes through prototype changes and controlled production transition.

### Junior Electrical Engineer

Harborline Technology Laboratory 📅 June 2017 - June 2017 📍 Cambridge, MA

Supported supervised prototype development through analog circuit testing, PSpice **modeling**, component traceability, troubleshooting, laboratory reporting, and controlled documentation.

- Built and tested prototype analog circuits under senior direction, recording voltage, current, and waveform measurements.
- Prepared **PSpice** models for power supply and filter circuits, comparing simulations with measured prototype behavior.
- Updated component lists and test records after engineering changes, preserving traceability across prototype configurations.
- Reproduced reported circuit conditions at the bench, documenting observations that supported troubleshooting decisions.
- Prepared laboratory summaries connecting test setup, measured results, and engineering conclusions for design review.
- Supported controlled prototype documentation during transition from university study into professional engineering practice.

## PROJECTS

### Shipboard Power Conversion Modernization 📅 2020

Reworked AC/DC and DC/DC power paths for shipboard control equipment, combining isolation, grounding, protection, simulation, and bench verification.

### Defense Power Board Verification 📅 2024

Built a disciplined verification flow for switching supplies and analog boards, connecting requirements, PSpice models, laboratory evidence, and production records.

## LEADERSHIP & AWARDS

- Selected technical lead for defense power electronics design reviews and schedule driven hardware commitments.
- Recognized by program stakeholders for clear technical reports linking requirements, test evidence, and residual risk.
- Advanced into senior engineering leadership after sustained delivery across aerospace, maritime, and defense hardware programs.

## EDUCATION

### Bachelor of Science in Electrical Engineering

University of Massachusetts Lowell 🎓 GPA: 3.5 📅 2017 📍 Lowell, MA

**Coursework:** Analog electronics, power systems, control systems, circuit analysis, electromagnetic fields

## CERTIFICATIONS

- Active DoD Secret Security Clearance 📅 2026
- Bachelor of Science in Electrical Engineering 📅 2017

## TECHNICAL SKILLS

- **Circuit Simulation:** PSpice, MATLAB, Simulink

- **Power Conversion:** AC/DC, DC/DC, DC/AC
- **Power Supplies:** Switching supplies, linear supplies, PFC
- **Resonant Design:** ZVS, resonant circuits, synchronization
- **Power Distribution:** High current, low voltage, multi phase
- **EMI and Filtering:** EMI control, harmonic control, filters
- **Magnetics Engineering:** Transformers, inductors, magnetic components
- **Protection Systems:** Isolation, protective relays, fault reporting
- **Control Hardware:** Servo control, motor control, digital feedback
- **Engineering Analysis:** Short circuit analysis, stress analysis, modeling
- **Laboratory Testing:** Bench testing, component testing, environmental testing
- **Documentation Systems:** Technical reports, test procedures, traceability

## PROFESSIONAL AFFILIATIONS

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- Active participant in defense hardware development, production support, supplier coordination, and engineering review activities.
- Electrical engineering community contributor through practical laboratory methods, design documentation, and peer guidance.

## ADDITIONAL INFORMATION

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**Work Status** : Authorized to work in United States. No sponsorship required.

## REFERENCES

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AVAILABLE ON REQUEST