

# Jerry Thompson

## Professional experience and accomplishments

### 1999 – Present Rockwell-Collins Flight Dynamics Portland, OR

Leading manufacturer of commercial, military and business aircraft head-up guidance systems (HUD / HGS).

#### Sr. Test Engineer

- Design and development of Win32 based engineering software tools used in the design, manufacturing and verification phases of head-up guidance computers. The software tools, **WinFlight™**, **WinTerm™** and **HexTerm™** allow design and systems engineers to monitor and alter variables data within the guidance computer even while the aircraft is in flight. **WinFlight™** in particular, is used during certification of the guidance systems to validate data and variables internal to the guidance computer during actual flight testing and certification trials.
- Software and hardware support for engineering and manufacturing avionics test systems consisting of networked **Linux**, **OS-9**, and **Win9x** systems running on PC and VME hardware platforms. The Linux and OS-9 systems supported the avionics hardware while the Win9x platform provided an easy-to-use common GUI interface to the user. These systems provide a real-time simulation of the in-flight avionics environment of a guidance computer and allow design and systems engineers to try-before-fly during the development phase. The architecture also allows test engineers to use a near-flight environment to simulate critical aspects of the flight envelope during functional and acceptance testing of production hardware.
- Wrote, developed and supported board-level test procedures, processes and fixturing used by production test technicians to functionally test SRA-level components of the heads-up projection systems installed in the aircraft cockpit. These projection systems are combination stroke/raster display systems with complex projection optics used to show the pilot conformal flight path, attitude and instrument data while he looks forward out the aircraft.
- Design and development of an Optical Measurement System (OMS) hardware and software. Based on high-speed scientific grade **CCD** camera technology, advanced COM software architecture and precision optical tooling, the OMS is used during functional and acceptance testing of production hardware to make critical spatial and luminance measurements of the projected **HUD** display. The OMS is a much simpler, faster and less expensive solution for objective functional testing of an optical system than the current equipment suite of Theodolite, Line Scan, and Photometer requiring highly skilled technicians to operate.

### 1994 – 1998 Hughes Network Systems Germantown, MD

Leading manufacturer of industrial and commercial satellite and cellular network and infrastructure hardware.

#### Test Engineer III

- Hardware and software design, development and deployment, in three sites, of high-volume functional test sets for **ISA**, **PCI** and **USB** based **DSS** and **DVB** satellite receivers. L-Band **RF** inputs of varied modulation, symbol rates, code rates, power levels and noise ratios are used for **Eb/No** characterization of the receiver. Bus dynamics are tested using programmable hot-docking bus extensions. Stand-alone testers are connected to a data and encryption router by a custom **IPX** protocol for test data collection and **DES** encryption keying.
- Designed factory software tools for marking, labeling and tracking product before shipment to ensure product serial number uniqueness (**ShipCheck™**). Shipment inventory software allowing product to be packed directly into sea and air freight containers on the manufacturing floor (**PackIt™**), and a management tool allowing remote access to the immediate status of all new, tested, and returned product (**CellMan™**).
- Designed a software security package for **ISO-9001** compliant software version control while allowing test engineers the flexibility needed for rapid development (**Software Sheriff™**).
- Developed and deployed equipment, software and processes to ensure the **ESS** capabilities of Hughes' manufacturing were state-of-the-industry and compliant with **IES**, **ESSEH**, **Mil-Stds 810/2164**, **Mil-Hdbk 344A**, and **NAVMAT P94992** guidelines.

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## **1990 – 1994 GE Aerospace Johnson City, NY**

Currently BAe and continuing to lead the world in manufacturing state-of-the-art Full Authority Digital Engine Controls (FADEC) for commercial and military jet engines as well as flight and systems computers for military aircraft of all types.

### **Test Engineer III**

- Software and hardware design using statistical methods, advanced image processing and a high-resolution **infrared imaging** camera to perform non-contact inspection of assembled circuits built on ceramic substrate as part of the Navy's **BYS-2** program for the **Seawolf** attack submarine. Awarded the prestigious *General Electric F.V. Johnson Award for Engineering Excellence* .
- Co-developed advanced statistical inspection algorithms for use with an advanced **SBL** (Scanning Beam Laminography) **X-ray** inspection system, also for the BSY-2 program.
- Software and fixture design for functionally testing flight control computer subassemblies for the **AH-64** attack helicopter, the **A-10** ground attack fighter and the **F-18 E/F** strike fighter.
- Developed hardware and software for functional testing over time and temperature of power supplies for **FADEC** (Full Authority Digital Engine Control) computers used in GE's **CF6**, **CFM56** and **F414** aircraft engines and flight and systems computers for the **C-17** and **V-22**.
- Designed software to use a low cost **PWM AC** source to accurately emulate an aircraft's 3-phase spooling alternator through the entire in-flight performance envelope and potential failure modes.

## **1988 – 1990 NH Research Irvine, CA**

Manufacturer of precision AC and DC power sources and power electronics test equipment.

### **Applications Test Engineer**

- Pre-sale development and configuration of **VXI**, **IEEE-488** and custom protocol test equipment, per customer needs and requirements.
- Custom software and interface fixtures for accurate high-volume manufacturing tests of AC/DC and DC/DC converters and power supplies.
- Technical representative alongside field sales representatives during initial and follow-up sales visits throughout the US.
- On-site customer training, support and custom development including customer sites throughout the US and Korea.

## **1987 – 1988 Flextronics, Inc. Chatsworth, CA**

Contract manufacturer of leading-edge LAN, disk drive, tape drive and communications electronics.

### **Test Engineer**

- In-circuit test development using **Zehntel 800**, **Marconi 80X** and **GenRad 2275**.
- Supervised and trained groups of test and troubleshooting technicians.
- Functional test software for tape drive controllers LAN hubs and modems.

## **1985 – 1987 Xebec, Inc. Carson City, NV**

Manufacturer of HDD controllers, disk drive subsystems and communications electronics.

### **Lead Engineering Technician**

- Functional test software for disk drive systems, PC memory cards and modems.
- Enhanced existing diagnostic firmware used to troubleshoot HDD controllers.
- Component-level troubleshooting and manufacturing support.
- On-site technical lead during technology and capabilities transfer to manufacturing facility in Hidalgo, Mexico.
- On-site technical lead during technology and capabilities transfer from Xebec's Allentown Pennsylvania facility.

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## Skills, abilities, experience and attributes

- **Visual C++, Borland C, LabVIEW, VisualBASIC, QuickBASIC, Pascal** programming languages.
- **Windows 9x** (Win32), **Windows 3x** (Win16), and **DOS** development experience.
- **Linux, Windows** and **DOS** installation, configuration and practical experience.
- **Functional** and **In-Circuit digital, analog, power, RF** and **avionics** test engineering background.
- **ISA, PCI, USB, RS232, GPIB (IEEE-488), DIO, IPX** and **TCP/IP I/O** development.
- **AutoCAD, ORCAD, Photoshop, Project, Word, Excel, Visio** applications experience.
- **Digital Photogrametric, Infrared** and **X-ray** inspection software and hardware development.
- Presentation and web graphics experience.
- Highly motivated self-demanding work ethic.
- Able to characterize and solve problems quickly.
- Effective verbal and written communications skills.
- Highly adaptive and quick to learn.
- Able to contribute independently and very productive in a team environment.

## Education

**1985 University of Nevada Reno, NV**

ASEE (Associate of Science in Electrical Engineering)

- 3.85 GPA with mathematical and physics emphasis
- Cross-discipline classes in Statics, Dynamics, and Materials Engineering

## Professional memberships and associations

- **IEEE** – Institute of Electrical and Electronics Engineers
- **Mensa** – American Mensa, Ltd.