

## **RICHARD J. JUNGERT C.I.D.**

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### **Skills Summary:**

- 23+ yrs of experience in electronic hardware design/ testing
- Over 15 completed projects for Agilent, Tektronix and Rockwell
- Copper Ethernet physical layer circuit board design
- ORCAD Schematic Capture V10,
- PADS Power PCB V2005 Layout & Auto routing Tools
- Autocad Light 2000 Expert
- Analog, Digital, RF, Video on Same Board
- Very fine pitch Routing Area
- 2-20 Layers and Thermal Dissipation
- High or Low Current / Voltage
- ISO 9001 FAB & Assembly Drawings
- Flex & Rigid flex cable interconnect design
- FCC CISPR, EMC/EMI Compliant
- Multi Layer Ceramic for Wire Bonding connection to Die
- Work closely with Design/Quality engineering
- 150 Designs to date
- IPC Member C.I.D.

### **Experience:**

#### **PCB Engineer Design Consultant April 2006 to Present**

- Design new PCB'S and drawings for High Speed DDR2 Computer Memory boards
- Design PCB's and assembly drawings for new camera products.
- Working with startup groups and companies on a consultant basis from home

#### **Sr. PCB Engineer/Designer April 2003 to April 2006**

##### **Tensolite Company Vancouver, WA**

- Multi-Channel high speed Interconnect design and layout, DC to 15 GHz.
- Sonnet 2D EM Simulation, Controlled impedance expert, PS timing, skew estimations
- 50 ohm, 100 ohm differential pairs and 75 ohm single ended designs
- Latest PADS Power PCB and AutoCAD Layout tools.
- Master of Teamwork, over 15 new products released, work closely with suppliers
- Signal Integrity expert, New Customer orientation, HDSI designs

### **Sr. PCB Designer /Engineer, 1999-2003**

#### **Pixel Vision of Oregon Inc. Tigard, OR**

- Designed over 30 new PCB assemblies, IPC Designers Certification
- Very Low Noise Circuit board design for Scientific Camera's POWER PCB V5.0, Cam 350, and Orcad 9.1 AUTOCAD 2000 software
- Flex/Rigid flex, Multi-layer Ceramic Design
- Major Contributor to new product development and Fab
- Assembly Drawings and Documentation

### **PC Board Designer 1995-1999**

#### **Intellitron Sunnyvale, CA**

- Designed over 30 Printed Circuit Boards for 3 start up companies
- Developed Fabrication and Assembly drawings for PCB
- Used PADS Power PCB and ORCAD, AUTOCAD 2000 software
- Complete Schematic Capture and board layout, IPC Member

### **Sr. Test Development Engineer 1989-1995**

#### **Digital Microwave Corporation Currently Stratex Networks, San Jose, CA**

- Assisted in design of 45Mb/s DS3 digital video microwave product
- Developed test fixtures for Spectrum I, Wide band and Quantum products
- Design and electrical performance improvements
- Conducted Hardware development and test development
- Used ORCAD and XILINX FPGA software
- S Parameters & BPF Filter Characterization and Tuning
- DS1-DS3 Bit Rates, QPSK, 16QAM, 64QAM modulation to 70, 310 MHZ
- Conducted Microwave transmit and receive performance testing to 23 GHZ
- Programmed PAL, PROM devices and tested Reed-Solomon error correction circuits
- 1bit and 8 bit self-Synchronizing scramblers, descramblers
- EB/NO Noise performance, PLL, VCO, Many Design improvements
- Promotion from Engineering Technician to Engineer

### **Sr. Engineering Technician 1987-1991**

#### **Faroudja Laboratories Sunnyvale, CA**

- Prototype Test and Debug new Printed Circuit Board electronic assemblies.
- Component level work. Interface with consultants and design verification.
- NTSC Encoders and Decoders, Design improvements
- Troubleshooting to component level, Debug expert

## **Education**

- AAS 3 year Electronic Systems Technology Idaho State University Pocatello, ID
- UC Berkeley Extension C programming, OP AMP Circuit Design
- San Jose City College Assembly programming
- Idaho Drafting Diploma 1981 LCSC Lewiston, ID
- EMI-RFI Design Seminar – 2002

- EMI-EMC Seminars 2004
- Howard Johnson Seminars 2003

### **Tools/Equipments**

- HP Spectrum Analyzers, HP Logic analyzers, Tektronix Oscilloscopes, DVM,
- HP Network analyzers, HP Bit Error Rate Testers, HP Multi-path Fade Simulators
- Mentor Expedition layout tools training.
- Pads and AutoCAD Layout CAD tools.

### **Additional Skills**

- Sonnet 2D and 3D EM Simulation
- 2 and 4 port S-parameter and TDR evaluations DC to 20Ghz
- Insertion Loss, VSWR and Return Loss
- NTSC Video Sync Generator electronic circuit Redesign and layout
- Multi Layer Ceramic for Wire Bonding connection to Die
- EVS 1000 Infrared Camera project
- Tensolite 100 ohm differential Cable and Samtec High Speed connector and designs
- Electrical length matching with accordion type traces
- Tektronix TLAHRA 18 channel Adapter and logic analyzer probe design
- Precision 50, 75 and 100 ohm PCB trace geometries
- NTSC 4FSC Phase Lock Loop Circuit Redesign and electrical noise reduction concepts
- 1/2 ounce, 1 ounce or 2 ounce copper weight requirements
- Lattice Diagram or Bergeron Plots with spreadsheets
- High Voltage and low Voltage physical layout
- Camera CCD Simulator design for Emulation
- Digital Microwave Corporation Quantum product and Wide band QAM Radio Expert
- Multi contact plug Invention
- Electrical length compensation
- Electronic troubleshooting expert DC to 20GHZ including RF troubleshooting
- 270Mb D1 serial digital Video to analog RGB converter complete electronic design
- Very fine pitch routing to 14 physical layers with 0603, 0402 sized SMT parts
- HP Spectrum and Network Analyzers
- FCC CISPR, EMC/EMI Compliance
- Signal Integrity Expert