

# Curriculum Vitae of Roy A. Griffin III, P.E.

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## Summary

Expert witness, patent and copyright infringement analyst with experience in reverse engineering of software and hardware. Over 25 years of industry experience in electrical engineering, product and system design, secure circuits and software, digital logic, microprocessor and microcontroller program development, firmware disassembly, patent analysis, and reverse engineering. I'm a hands-on engineer with special expertise in television, satellite communications systems, DVB, MPEG, CATV systems, access control, smart cards, encryption, scrambling, and anti-piracy.

## Expert Services in IP, Patent, and Copyright Infringement Cases

I have worked for both plaintiffs and defendants in patent and copyright infringement cases, providing consulting services, declarations, expert reports, and expert testimony. I have reverse-engineered electronic products in support of intellectual property (IP) litigation or licensing efforts, and I have analyzed patent portfolios. *Note that due to confidentiality requirements, work performed for clients can only be discussed in general terms.*

### Testimony provided at trial or by deposition within the past 5 years:

Silicon Image Inc. v. Analogix Semiconductor, Inc. (2008) – Deposition.

Expert witness for the plaintiff in a trade secret misappropriation and copyright infringement case. The case involved intellectual property (IP) relating to HDMI chips. Tasks performed included analysis of discovery materials, writing an expert report, and being deposed as an expert witness.

Comcast v. Finisar (2007) – Deposition.

Expert for the defendant and counterclaim plaintiff Finisar in a patent infringement case involving U.S. patent No. 5,404,505 to Levinson. Tasks performed included research, patent infringement analysis, analysis of discovery materials including Comcast documents, writing an expert report regarding infringement and deposition testimony.

Finisar v. DirecTV (2005 – 2006) – Jury trial in Beaumont, Texas.

Testifying expert for the plaintiff in a patent infringement case involving U.S. patent No. 5,404,505 to Levinson. Tasks performed included research, patent

infringement analysis, analysis of discovery materials including DirecTV specifications, writing expert reports regarding infringement, deposition testimony, and expert testimony in a jury trial.

The Chamberlain Group, Inc. v. Lear Corporation and Ford Motor Co.(2005 – 2006).

Expert for the defendant in a patent infringement case involving U.S. patent No. 6,154,544 to Farris et al. Tasks performed included analysis of discovery materials, and deposition testimony both as an expert witness and a 30 (b)(6) witness.

### **Some Other Cases of Record:**

Motorola Inc. v. Analog Devices, Inc.; and Motorola Inc. v. ST Microelectronics, NV and ST Microelectronics, Inc. (2004)

Expert for the plaintiff in patent infringement cases involving U.S. patent No. 4,758,945 to Remedi. Tasks performed included research, patent infringement analysis, analysis of discovery materials including specifications and microcontroller core circuitry; preparation of a declaration in support of a Markman Hearing, and preparation of declarations in rebuttal to summary judgment motions.

Parental Guide of Texas, Inc. v. Funai Corporation, Inc., et. al. (2002)

Expert for 7 defendants in a patent infringement case involving U.S. patent No. 4,605,964 to Chard. Tasks performed included analysis of EIA-608 specifications (VCHIP and XDS), analysis of discovery materials including microcontroller software, and television circuitry, acting on behalf of several defendants as a 30(b)(6) deponent, and writing an expert non-infringement report.

IPPV Enterprises v. EchoStar Communications et. al. (1999-2001) – Jury trial in Wilmington, Delaware. Judge McKelvie presiding.

Testifying expert for the plaintiff in a patent infringement case involving several patents. Tasks performed included research, patent infringement analysis, analysis of discovery materials including EchoStar and DVB television system specifications, hardware and software analysis, preparing an expert report on infringement, deposition testimony, and expert testimony in a jury trial.

General Instrument v. S.E.E. Electronics (1991 – 1993)

Expert witness in a Canadian patent and copyright infringement case. Tasks performed included reverse engineering of microcontroller software, patent and copyright infringement analysis, preparation of reports and declarations, and deposition testimony.

## Some Technological Areas of Expertise:

- **Television and video:** Digital Television, Cable Television (CATV), Direct to Home (DTH) satellite television systems, television program guide systems, Vchip, XDS, digital set top box circuits and systems, cable TV converters, cable TV head end equipment, satellite receiver cards, analog and digital video, DVB, MPEG-2, ATSC, HDMI, HDCP. PC based video multiplexer/switcher card.
- **Data communications:** RS-232 data tap, serial communications monitoring software, microcontroller based MODbus diagnostic reply unit, microcontroller based diagnostic monitors for cable TV out-of-band (OOB) communication channels, satellite TV in-band (IB) auxiliary channel monitor.
- **Internet technologies:** IP encapsulation (tunneling) for satellite delivery of internet content. ADSL modem technology.
- **Cameras:** Digital camera circuit technology, focus lens motor, camera flash, JPEG and EXIF file formats, red light camera systems.
- **Security and surveillance systems:** Security camera systems including surveillance systems used in banking and retail applications.
- **Computer and circuit technologies:** Digital circuitry, microprocessors and microcontrollers, microprocessor core circuitry and peripheral circuitry, microprocessor clocking circuitry, microcontroller firmware and software, software/firmware code disassembly and decompiling.
- **Automotive electronics:** Testers for automobile and diesel engine components such as fuel injectors and electronic control modules (ECM), controller area network (CAN) bus, automobile garage door opener technology, automotive sound systems.
- **Telecommunications:** Telephone technology, central office equipment, telephone based personal alert response system, telephone line testers, ADSL modem technology.
- **Access control systems:** Development and analysis of access control systems, smart cards, cryptography, encryption, scrambling, security, anti-piracy.
- **Consumer Products:** Heating pads and blankets with temperature monitoring and automatic thermal control. Rival Recipe Crockpot. Brewing appliances.
- **Remote Controls:** RF (wireless) and infrared (IR) remote controls, including a "learning" remote control.
- **Home automation control systems:** CEBus protocol on-off keying RF remote control transmitter, RF remote control receiver and PC keyboard protocol converter, microcontroller for controlling a frequency agile TV modulator.
- **Radio controlled billboard lighting and status reporting system:** Remote control and scheduling software coded in C language. Hardware and firmware for monitoring and reporting loss of illumination via packet radio.
- **Special function microcontrollers:** microcontroller based electronic pressure, counter, and torque force gauges used in deep sea exploration.
- **Systems Design:** New product development, engineering management.
- **Software Development:** C, Pascal, assembly languages for many processors, LabWindows CVI, Allen Bradley PLC Ladder Logic.
- **Other Technologies:** Test equipment, barcode scanners, a blood glucose meter.

## Some Additional Consulting

- *Scientific Atlanta* - Conducted an anti-piracy seminar and provided related consulting and security analysis services.
- *ComStream* - Developed the design concept and protocols for implementation of a conditional access control system for a DVB receiver. Provided security consulting services.
- *TeleTV* - Assisted in TeleTV's analysis of competitive bids for a multi-billion dollar digital MMDS TV system.
- *Pacific Telesis, MPAA, SBCA, General Instrument* - Consulting regarding TV security.

## Employment History

[RGExpert Services](#), 668 Nenna Ct., El Paso, TX 79932  
Engineering Consultant (06/2006 - Present)

Engineering consulting, security analysis of access control systems, reverse engineering, intellectual property support services, claims and patent infringement analysis, research, prior art searches, analysis of discovery materials, drafting of reports and declarations, depositions, and expert testimony.

[Sherwood Engineering Design Services, Inc.](#), 1155 C. Larry Mahan Dr., El Paso, TX, 79925.  
Senior Electrical Design Engineer/Consultant (12/1993 - 06/2006)

Intellectual property support services including reverse engineering of hardware and software, claims and patent infringement analysis, research, prior art searches, analysis of discovery materials, drafting of reports and declarations, depositions, and expert testimony.

Security analysis services.

Electronic product design and development including system design, digital design, microcontroller development, and software development. A sampling of products I have developed or in which I have played a major development role include:

- Combination RF/universal learning IR remote control for a smart house application.
- Frequency agile TV modulator for a smart house application.
- Custom keyboard for a boat navigation system.
- Software and firmware for a radio based billboard lighting and status reporting system.
- Several factory testers for diesel engine electronic control modules.
- Factory testers for various automotive system components.
- Electronic pressure, counter, and torque force gauges used in deep sea exploration.

- Personal emergency response system.
- Multi-line telephone line tester.
- Video multiplexer board for a PC.
- MODBus diagnostic reply unit for a major natural gas pipeline company.
- Slow cooker with a recipe menu display system.

Roy Griffin Consulting, 668 Nenna Ct. , El Paso, TX, 79932.  
Consultant (03/1991 - 12/1993)

Technical expert and expert witness as described above in “General Instrument v. S.E.E. Electronics Engineering”.

Performed security analysis services for several clients in the cable TV and satellite TV industries.

General Instrument, VideoCipher Division, 6262 Lusk Blvd., San Diego, CA, 92121.  
Engineering Manager (05/1989 - 03/1991), Sr. Electrical Engineer (01/1987 - 04/1989)

Analyzed the security of microprocessor smart cards, investigated patents and ISO standards, established interface requirements for VideoCipher's "TV Pass Card" security program. Performed technical analysis and cost comparisons between several proposed architectures.

Developed assembly language software for a high volume satellite TV descrambler.

Performed detailed security analysis and verification of secure cryptosystems, software, and VLSI and microcontroller hardware incorporating the DES encryption algorithm and a patented key hierarchy.

Managed engineers assigned to analyze and compromise the security of new microcontroller and VLSI based security products. Conceived, designed, and developed specialized test equipment and fixtures.

Supervised the activities of engineers, technicians, and consultants working in Security Engineering.

M/A-COM Cable Home Group, El Paso, Texas  
Sr. Project Engineer (08/1983 - 12/1986)

Developed several addressable cable TV descrambling converters and head end support products. Participated in the system design and wrote both microprocessor assembly language software, and 'C' software.

GTE Sylvania, El Paso, Texas  
Digital Design Engineer (06/1982 - 08/1983)

Participated in development of a two-way addressable cable TV converter.

GTE Lenkurt, El Paso, Texas  
Product Support Engineer (03/1979 - 05/1982)

Provided electrical engineering support for telecommunications product manufacturing.

## **Education**

Bachelor of Science in Electrical Engineering  
University of Texas at El Paso, 1981.

## **Registration and Patents**

Texas Registered Professional Engineer

US Patent #5,151,938, Issued Sept. 29, 1992.  
US Patent #5,249,294, Issued Sept. 28, 1993.  
US Patent #7,006,001, Issued Feb. 28, 2006.  
US Patent #7,109,445, Issued Sept. 19, 2006.  
US Patent #7,412,347, Issued Aug. 12, 2008.