

# Ethan A. Funk

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## SUMMARY

Over ten years experience as an audio and radio frequency design engineer, working on applications ranging from broadcast to military communications. Strong skills in Radio Frequency circuit design, including board layout, VCOs, synthesizers, power and low noise amplifiers, as well as wireless system design. Working knowledge of a wide variety of electronic systems and components.

## EXPERIENCE

Partner, **8/03-Present**

**Red Mountain Radio L.L.C.**, Ouray CO  
Microwave design engineer/President.

Consultant, **11/98-7/03**

**Trios Associates, Inc.**, Lanham MD  
Microwave design subcontractor - Developed for production a 0.5 to 10 Watt L-Band Pulse transmitter module for a radar response application, with a follow-on contract to add FSK modulation capability and a matching receiver module.

**Digital Ink, Inc.**, Wellesley MA  
Lead analog design engineer for the company's flagship product: a pen that remembers what it writes. Responsible for power management, signal conditioning, ADC, PLL, IR sensors, digital interfacing, etc.

**Museum Technology Source**, Winchester MA  
Design/prototype various custom and product line microprocessor based, audio and control devices for end use in museum exhibits.

**Litton Advanced Systems Inc.**, College Park MD  
Subcontracted for on site trouble shooting/redesign of the SSRS (space to space radio system) at Johnson Space center. Also participated in various design feasibility studies including a cable television network access device with dynamic program access control residing outside the customers premisses and a space based GPS receiver for use on satellites.

Direct Positions

**Racal Communications Inc.**, Rockville MD, Senior RF Engineer, **7/97-10/98**  
Design engineer responsible for the receiver and synthesizer sections of a hand-held, SINCGARS, VHF radio and a 20 watt linear power amplifier section of a multi band (30 to 512 MHz) vehicle adapter .

**Harris, RF Communications**, Rochester NY, Electrical Engineer- Tac. Radio group **12/96-6/97**  
Design engineer responsible for a synthesized UHF low noise local oscillator and the transmit/receive first IF chain of a 20 watt multi band (1.5 to 512 MHz) all mode Manpack radio.

**Harris, RF Communications**, Rochester NY, Electrical Engineer- Systems group **6/95-11/96**  
Systems engineer responsible for rack level system design of air traffic control HF radio communications systems including the system installed at Chek Lap Kok Airport, Hong Kong. Extensive experience with one and five kW HF transmitters, specialized transmit filter design, and system level testing.

**Harris, RF Communications**, Rochester NY, Engineering CO-OP- Systems group **3/93-12/94**  
Responsible for parts list management, test documentation and OEM equipment specification for various department projects included audio/video surveillance systems and shetlerized military communications systems.

**WTR-FM/Rochester Institute of Tech.**, Rochester NY, Chief Operator/Consultant **9/93-6/97**  
Responsible for the general engineering fitness of the studio and transmitting facilities and FCC required operating logs. Provided basic engineering, maintenance and studio production training for the staff. Developed a "Live Assist" digital audio software system featuring computer based storage, sequencing, and unattended automation of audio material for air play. Designed and directed the reconstruction of two broadcast studios, a production studio and a sound studio. Installed and licensed a new studio to transmitter microwave link, remote broadcast facilities and a 1 kW FM broadcast transmitter and antenna system.

## EDUCATION

**Rochester Institute of Technology**, Rochester NY  
B.S. in Electrical Engineering, June 1995 (BSEE)  
Technical Concentrations: Microwave Engineering, Digital Data Communications  
Senior Project: 98 MHz, 128 kb/s simplex spread spectrum wireless modem