Company Profile

COMPANY

HDA Technology is a full-service design firm specializing in electronic product development, with particular emphasis on medical electronics and regulatory compliance mitigation. We are presently undergoing ISO-13485 Certification.

Our expertise includes precision analog, instrumentation, digital control, electrosurgery, video, DSP, embedded design, and compliant documentation and design processes. Founded in 1983 by Hunt Dabney, HDA Technology is located in Irvine, California.

Our clients include:

Advanced Computer Solutions, Inc.
Alcon Laboratories, Inc.
Advanced Medical Optics, Inc.
Applied Medical Resources, Inc.
B/E Aerospace, Inc.
Cardiometrics
Ellipse Technologies, Inc.
Epson America, Inc.
Ethicon div., Johnson & Johnson Co.
EV3 Neurovascular, Inc.
Genomic Solutions, Inc.
Gish Biomedical, Inc.
Groove Tubes
Intel Corp.
IOLAB div., Johnson & Johnson Co.
Iteris, Inc.
Laurus Medical Corp.
Media Technology Systems, Inc.
Medstone, Inc.
Mesa Engineering, Ltd.
MiCardia, Inc.
Micro Motors, Inc.
Micro Therapeutics, Inc.
Midmark Diagnostics Group
Monaero Engineering
Opus Medical, Inc.
Regenesis Biomedical, Inc.
Respiratory Support Products, Inc.
Rokenbok Toys
Saturn Div. GM
SenoRx, Inc.
Sony-Transcom, Inc.
StatChem, Inc.
Stryker Communications, Inc.
SurFx
Swift Engineering, Inc.
Teac America, Inc.
Thales Avionics, Inc.
Transdigital Communications Corporation
Uro-Health, Inc.
Vascular Control Systems, Inc.
Vertelink, Inc.

TECHNOLOGY

Following are a few examples of turnkey projects developed by HDA:

This RF Electrosurgical Generator was developed to meet the specialized needs of breast surgery involving long electrodes. It is capable of delivering over 2KW of RF into widely variable load conditions, while meeting all applicable safety requirements

The clinical pilot unit shown is the result of cooperative R&D efforts between HDA and our client. New approaches to energy delivery, control, and safety monitoring systems were required. The unit's power supply will allow operation from a standard wall outlet while meeting short-term high output requirements.

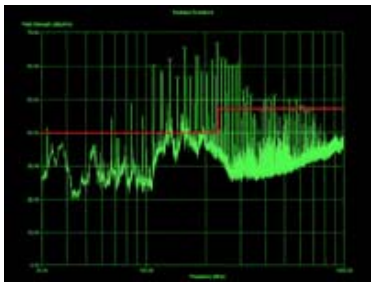
In addition to basic research to develop system requirements, this project included development of the following:

- Parametric lab system to fine-tune requirements.
- RF Power Amplifiers, matching circuitry and power delivery magnetics design.
- Purpose built power supply, control system, safety monitoring and interlocks.
- Compliance pre-test and mitigation.

- Prototype and pilot run fabrication.
- FDA, AAMI and IEC requirements.

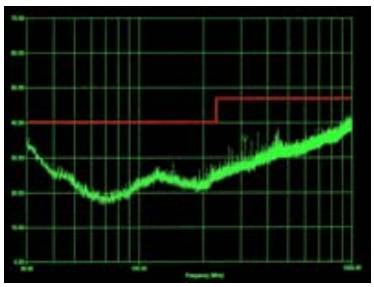
HDA developed this automated test system for production matching of power tubes for musical instrument amplifier and specialty audio amplifier manufacturers. Tubes are tested under actual use conditions, which are configurable in software. This system allows complete acceptance testing and characterization of over 300 tubes per hour. The system may be configured to meet special customer requirements.

This Control Module operates a variety of surgical instruments that are used in various types of breast procedure. These include drivers (intelligent surgical hand pieces) that are used for biopsy, tumor removal and various other purposes. It can drive multiple motors and other actuators concurrently, while simultaneously controlling other attached equipment, such as vacuum and electrosurgical generator systems. Safety interlocks, self diagnostics and fault detection are key features of this Class-2 medical device.

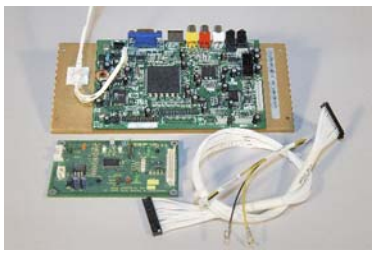


These plots show an example of our success at mitigating EMI compliance problems.

The system under test is microcontroller based, and controls multiple inductive loads while sustaining high-speed communications with a host system. As may be seen from the first plot, this device was really on the air!



This is the final plot following our mitigation work, which involved minor circuit changes and new layouts for two of the internal PC boards.



We developed this Spares Kit so our client can continue to support the airlines that are dependent on their equipment. As major components and interfaces reach end-of-life, legacy product support becomes increasingly challenging for many companies. By developing system compatible drop-in replacements for these subassemblies, we help our clients to continue to support their customer base.


The Electronic Battlefield

Crucial Tests for Tools of Command

This article from the New York Times (1.20.1991, Sec 4) shows the Combat Engineering Center onboard the USS Wisconsin during the Persian Gulf War. The equipment in the upper left corner (and other locations), was designed, programmed and built by HDA for Naval Systems Ocean Command (NOSC), USN.

HDA produced this device in 10 inch, 19 inch and 21 inch versions for the Navy.

KEY STAFF

HDA employs talented and experienced hardware engineers, software engineers and support personnel. An effective and capable team is available to meet your needs.

Our senior staff includes the following key individuals:

Hunt Dabney, CEO, has extensive experience developing a wide variety of electronic products and systems. For more than 30 years he has served in a design or technical problem solving capacity in a broad range of industries, including medical electronics, industrial instrumentation, automotive electronics, applications software development, semiconductor device specification, professional audio, military and avionics. After founding and operating a successful electronic products company and licensing the manufacturing rights to patents that he held, he formed Hunt Dabney & Associates. In the decades since, HDA has grown from a one-man consultancy to a dynamic firm employing a group of highly talented and diverse individuals. Hunt holds 7 US patents with an additional 7 pending.

Conrad Sawicz, Chief Scientist, has worked in research and development for over 25 years. His experience spans applied research to product development for volume production. He has shouldered team and group managerial rolls as well as complete design responsibility in both the Medical and commercial In-Flight Entertainment (IFE) industries. His skills include analog, digital, microprocessor, RF, and network circuits and systems design, system and project definition, organizing and leading project teams, and oversight of third party vendors. Conrad authored the Video on Demand specification published by WAEA (IFE Industry standards group). Conrad received his BS in Physics from the University of California, Irvine, and holds 3 US patents with 1 pending.

Robert E. Yablonski, Vice President Engineering, previously enjoyed positions as Director of Engineering with BE Aerospace (now Thales Avionics), Director of Engineering with Transdigital Communications Corporation, and Vice President of Alligator Technologies. Robert holds a masters degree in Electrical Engineering with a control systems and filter theory emphasis. Robert has managed projects with budgets greater than $5 million and staffs of over 130. Robert provides skills in system engineering, management, documentation and certification and holds 6 US patents.

HDA Technology is dedicated to providing our clients with the highest quality of technological services, in a cost-effective and timely manner..

CONTACT

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