



Building the Workforce to Service the Digital Home Through Training and Certification

Helen Heneveld argues that solid industry credentials verifies skills for consumers and employers while establishing proof of professional knowledge for home system installers.

Digital living is here – consumers embrace electronics and digital is everywhere in communication, documentation, entertainment, and everyday life. Homes are now wired extensively for multi-room audio, computer networks, surveillance cameras, security systems, home theater, and home control. Current sales and projections for digital home products and systems show double-digit growth. The challenge today is how do you know the company and technician performing installation and service work is qualified and performing the work correctly. The need for a qualified workforce to deliver the digital home is paramount.

For years, many have predicted a plug-and-play world for installation of electronics. Products and interoperability have improved dramatically over the past decade, yet growth in technology is still faster than product enhancements, requiring installation and interconnection by trained and qualified technicians. The required skill sets are different than that of the electrician, the traditional wire installer in the home. The professional contractors serving the home provide electrical, plumbing, and HVAC (heating, ventilation and air conditioning), now meet an additional professional trade – the electronics systems contractor or ESC. An electronics systems contractor delivers the digital home with installation and servicing of the following residential technology systems:

- Multi-Room Audio/Video
- Home Theater and Media Management
- Networking and Communications
- Lighting Control

- Safety and Security
- Home Control

The person performing this work in the field is called an electronic systems technician or EST. Trained and certified professionals are recommended to ensure quality design, installation, advanced setup, programming and ongoing support.

Training Resources

Opportunities for training in the fast growing world of technologies for the digital home range from associations, industry conventions and events, education facilities, and training companies to manufacturers and publishers. Venues for training include traditional live delivery, webinars and online training. Technical schools offer training in technology for the home, incorporating online, classroom settings with lectures, and hands-on labs. Publishers are releasing books that cover different technologies such as; installation, programming, calibration, troubleshooting and industry certifications. Books are also available covering the business aspects of the industry such as design, sales, and project management.

Verification and Recognition

A wide skill set is needed by the ESC. Industry associations, product manufacturers and independent companies are validating knowledge and skills with different kinds of recognition. These acknowledgements can inspire confidence from business partners and potential customers, and can be a valuable differentiator in a highly competitive market. Both contractors and homeowners,

along with the ESC, desire to have a common frame-of-reference verifying the training and knowledge of technicians. Industry certifications exist to help identify qualified and competent people in the market.

Entry Level Certification

A unique collaboration among some of the most respected industry associations, including the Continental Automated Buildings Association (CABA), Consumer Electronics Association (CEA), the Custom Electronic Design and Installation Association (CEDIA), and the National System Contractors Association (NSCA), and other businesses created ESPA, the Electronic Systems Professional Alliance. ESPA is working to build a qualified workforce with the necessary set of entry-level industry knowledge and best practices, and to create career opportunities within a unified electronic systems industry.



Certified Electronics Systems Technician

The candidates for this certification have six to nine months experience. This applies to many technology sectors including residential and commercial audio/video, computers, lighting, automation controls, security, alarm, telecom, cable and satellite. Certification is indicated by the designation Certified-EST. The domains include:

- Electrical Basics
- Tools
- Construction Methods and Materials
- Wiring and Installation Practices
- Standards, Codes and Safety Practices

Technology Certificates

Delivery of the digital home requires understanding of many technologies and it takes time to learn all aspects. While working on learning different technologies, validation of specific knowledge is available with the recent launch of the Home Networking Certificate from CEA's Digital Home Certificate Program. Through accessible and affordable online testing, technicians can validate their knowledge and gain recognition with a certificate upon passing the online test.

Additional certificates in CEA's Digital Home Certificate Program will be available the fourth quarter of 2009 covering numerous technologies such as multi-room audio and video, home theater and media server, lighting

Certification Benefits Abound

Solid credentials in a growing market help meet market demand

Customers

- Identifies trained and qualified technicians
- Establishes trust with the company hired
- Ensures installations are done correctly and efficiently

Employers

- Verifies skills of job candidates and reduces entry-level training costs
- Measures competency standards
- Provides a competitive advantage over companies without certified technicians

Technicians

- Establishes proof of professional knowledge and achievement
- Increases credibility and respect in the workplace
- Identifies potential career paths
- Improves job satisfaction and opportunities

Resources:

www.bedrocklearning.com/CEA-DHCtests
www.comptia.org/certifications/listed/dhti
www.espa.org
www.imagingscience.com
www.thx.com/training
www.caba.org
www.cedia.org

control, safety and security, complete home control and project management.

Digital Home Certification

Back in 2000 the Internet Home Alliance - IHA was formed to enhance consumers' understanding, appreciation and adoption of the Internet lifestyle. Fast-forward to today and everyone is experiencing the ubiquitous Internet. Co-founders of the IHA included 3Com, Best Buy, Cisco Systems, CompUSA, General Motors, Honeywell, Invensys, Motorola, New Power Company, Panasonic, Sears and Sun Microsystems.

This group was one of the first to recognize the need for industry-wide certification. One was developed by working with the Computer Technology Industry Association - CompTIA, the world's largest provider of

certifications for technology professionals. In 2002, the Home Technology Integrator, HTI+ certification was released. In 2006, the operations of the Internet Home Alliance were integrated into CABA and the IHA's collaborative research program continues today with the Connected Home Research Council. In 2007, the CEA-CompTIA Digital Home Technology Integrator, DHTI+ certification was launched and HTI+ was retired.



CEA-CompTIA Digital Home Technology Integrator, DHTI+ Certification

A collaboration between CEA and CompTIA updated HTI+ and defined the certification for the complete digital home with CEA-CompTIA DHTI+. This is the benchmark for today's electronic systems contractors assuring individuals with 18-24 months experience have the advanced skills and knowledge to configure, integrate, maintain, troubleshoot, and comprehend the basic design concepts of electronic and digital home systems. Domains include:

- Home Networking
- Audio/Video Distribution
- Telephone/VoIP
- Security and Surveillance
- Home Control Management
- Documentation and Troubleshooting

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devices. Applications to control audio visual entertainment systems, HVAC, lighting, as well as provide information and services are readily available.

Unlike the AV touch screens and the personal computer in a wall approaches, VoIP devices may just be adding applications to a device that already exists. To use the VoIP as a system control device, as well as a telephone, further merges everything on an IP network and should result in lower operating costs.

One of the concerns with using a VoIP telephone is the size (5.6 inch on a Cisco 7975G) and resolution of the touch screen, which are smaller and have less clarity than other device options. Unlike the other device options, full motion video applications on the VoIP telephone, such as

Advanced Specialized Certifications

Industry-experienced individuals desire ongoing learning and confirmation and recognition of knowledge and skills in specific areas. Numerous manufacturer certifications exist, along with several independent ones; ISF – Video Calibration, THX – Video Calibration and Home Theater. CEDIA offers four certifications: EST II, EST III (Advanced EST), Electronic Systems Designer, and Home Theater Design Specialist. CompTIA offers additional certifications focused on computers and information technology, IT, including A+, Network+ and Project+.

Future is Bright

Research reveals the rapid growth of the digital home industry has created a gap in skills. Training is essential with the increased offerings of technology for the home and the expansion of companies providing installation and services. Certification validates the knowledge and skill set of the technician to install, maintain and repair electronic and digital home electronic systems and can establish comfort and trust for the customer. With a trained and certified industry workforce the market will be served correctly and efficiently. Everyone involved will benefit from training and industry recognized certification. **H**

Helen Heneveld, MBA is President of Bedrock Learning, Inc. She is also a current board member of CEA TechHome Division and past member of the CEDIA Board of Directors. Heneveld can be contacted at 616.355.1418 or helen@bedrocklearning.com.

a resident viewing a surveillance camera, may be reduced to the static video shots regularly refreshed.

While these touch screen devices may seem restricted to high-end home automation it is not the case. Expect these devices in healthcare, commercial office, government, education, etc. Allowing tenants and occupants to control lighting and HVAC (as opposed to some centralized or pre-determined control) has been shown to be a proven strategy to reduce energy consumption. The result will be more user controls in a variety of building types, many of them being accessed through intuitive touch screens. **H**

James M. Sinopoli, PE, RCDD is Principal of Smart Buildings LLC. He recently authored a book titled *Smart Buildings*.