CEDIA® CERTIFICATION GUIDEBOOK

Program Overview | Exam Procedures | CEU & Renewal Policies

ADVANCE YOUR CAREER

Prove Your Skills

Whether you are getting started, switching careers, or building on an established home technology career, certifications are a way to show your employers, peers, and clients that you are competent and engaged with the industry.

Guide Your Career Path

Certifications follow CEDIA's Job Task Analysis of key roles in the industry and, together with CEDIA Training, provide concrete pathways to developing specialized competencies.

BUILD YOUR TEAM

Pathways to Learning

Professional certifications provide both new and experienced staffers with a defined pathway to direct their learning. Practice tests can be used to gauge a person's current level of knowledge, and CEDIA Training offers a variety of learning resources in numerous formats.

Goals

Motivate your team, inspire confidence in their skills, and encourage your staff to take pride in their career. Certifications are a tangible achievement for owners seeking to encourage company values like excellence, adherence to best practices, and professionalism.

Job Structure

Each exam is based on a Job Task Analysis (JTA) which outlines essential knowledge and skills. Use the JTA to help write your job descriptions and build certifications into your existing personnel structure. Certifications can be used as benchmarks for new hires or requirements for promotion. Providing professional development opportunities is a way to engage employees in their career and help your company attract and keep talented individuals.

ELEVATE YOUR BRAND

Market Your Staff's Expertise

With profit margins moving from products to services and an ever-changing technology landscape, highlighting the skills and ongoing training of your employees is a key selling point. CEDIA Certifications offer a recognized, verifiable standard to help make your company story even more compelling.

Logos & Messaging

CEDIA Certified individuals are provided a full suite of logos, patches, messaging, and tools to use for marketing. Each certification also includes a digital badge, which is a custom URL that allows clients or partners to verify a certification status and learn more about it with a single click.

Showcase Your Company on CEDIA.net and Amazon

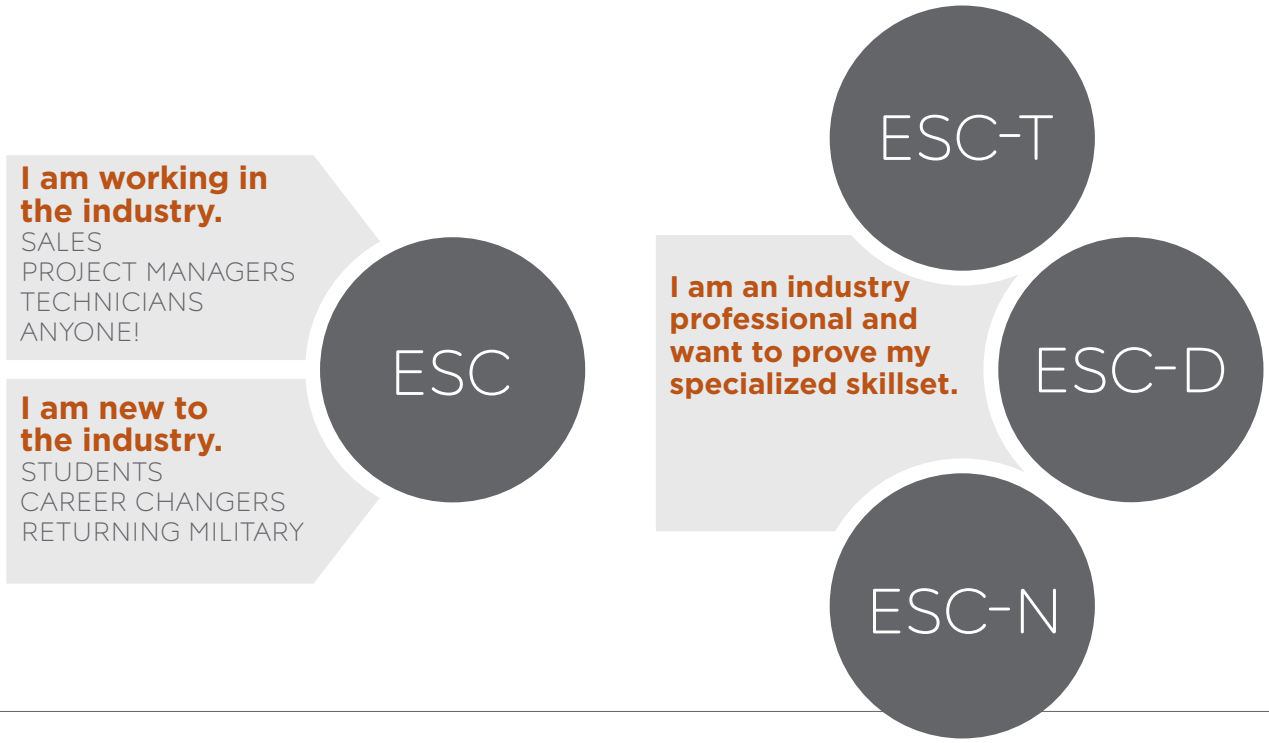
CEDIA member companies with certified staff appear at the top of the CEDIA Finder Service. Member companies in the US with a ESC-T, ESC-N, or ESC-D on staff are also eligible to join the Amazon Technology Engagement Program, where they can bid on custom projects and have their company's work highlighted.

About CEDIA Certification

Founded in 1989, the Custom Electronic Design & Installation Association (CEDIA) is the international association for home technology professionals and is the industry's authoritative source for research, standards, education, certification, and advocacy. For over 15 years, CEDIA has been certifying home technology professionals at all stages of their career. Each exam is designed to measure specific industry competencies as outlined in the Job Task Analysis (JTA) and was created by subject matter experts and test professionals. Following certification best practices, the exams are updated at frequent intervals with passing scores set using a psychometrically sound process.

CEDIA® CERTIFIED
PROFESSIONAL ON STAFF

WHICH CERTIFICATION IS RIGHT FOR YOU?



CEDIA ELECTRONIC SYSTEMS CERTIFIED

The **ESC Certification** is a foundational credential for individuals who work in the home technology industry and want to broaden their knowledge in all aspects of the channel.

CEDIA CERTIFIED TECHNICIAN

The **ESC-T Certification** is for individuals who are well versed in rough-in and trim-out tasks as well as installation and troubleshooting. This certification covers the technical expertise that forms the foundation of the industry.

CEDIA CERTIFIED NETWORKING SPECIALIST

The **ESC-N Certification** is for an individual who has mastery of designing, installing, and configuring a network in the home.

CEDIA CERTIFIED DESIGNER

The **ESC-D Certification** is for an individual well-versed in needs analysis, project design, documentation, and design management. Most professionals who sit for the exam have five or more years of experience.

ELECTRONIC SYSTEMS CERTIFIED (ESC)

CEDIA ELECTRONIC SYSTEMS CERTIFIED

Exam Length: 2 Hours
Exam Type: 100 Multiple-Choice Questions
Certification Validity: 5 Years
CEUs to Renew: N/A

If you work in the residential electronics industry and want to broaden your knowledge, this certification is for you. The CEDIA ESC Certification was designed to enhance the general knowledge of all home technology professionals regardless of their title.

Candidates may be students or career-changers entering the industry, or current professionals who want a credential that covers all aspects of the residential channel, and not just the work of technicians. The CEDIA ESC Certification serves as the foundation for higher level certifications and is recognized internationally.

ESC EXAM BLUEPRINT

1. INDUSTRY OVERVIEW & FUNDAMENTALS	31%
Introduction to the Industry	8%
Jobsite and Business Professionalism	6%
Industry-Related Math	6%
Fundamentals of Jobsite Safety, Codes, and Standards	6%
The Business of Residential Technologies	5%
2. INFRASTRUCTURE	**14%**
Pre-Wire Phase	8%
Trim-Out Phase	6%
3. EQUIPMENT INSTALLATION	**10%**
Racks and Cabinets	5%
Equipment Mounting	5%
4. SUB-SYSTEMS OVERVIEW	**45%**
Audio	9%
Video	4%
Home Theater/Media Room	7%
Networking	5%
Other Sub-Systems	4%
Systems Control	3%
Power Quality and Management	6%
Final System Calibration, Testing, and Commissioning	7%

ELECTRONIC SYSTEMS CERTIFIED TECHNICIAN (ESC-T)

CEDIA CERTIFIED TECHNICIAN

Exam Length: 2 Hours
Exam Type: 100 Multiple-Choice Questions
Certification Validity: 3 Years
CEUs to Renew: 30

Rough-in, trim-out, integrated control systems, retrofit, system verification, and testing. If we are speaking your language with this list, you may be ready to sit for the CEDIA ESC-T. This certification represents proficiency in the technical knowledge that forms the foundation of the residential electronic systems industry. The ESC-T is recommended for technicians with at least two years of field experience in a wide variety of installation tasks.

ESC-T EXAM BLUEPRINT

1. GENERAL TECHNICIAN ROLES & RESPONSIBILITIES	**12%**
Maintain a "safety first" mindset by understanding and following personal and property safety procedures and preventing accidents in order to prevent harm to self and others.	5%
Represent the company by demonstrating appropriate professional behavior, reporting work activities, and engaging in best practices.	2%
Use project documentation by interpreting, creating, or modifying appropriate field documents as required in order to confirm compliance with design specifications.	3%
Compute project-related data using relevant technical and mathematical equations, terms, and principles in order to ensure successful completion of work.	2%
2. INFRASTRUCTURE (PRE-WIRE & TRIM-OUT)	**14%**
Pre-wire an electronic system as specified in order to facilitate proper performance of audio, video, control, and related subsystem devices.	7%
Trim-out an electronic system by labeling, terminating, and testing cables and properly mounting and installing trim-related devices in order to support installation of audio, video, control, and other subsystem devices.	7%
3. EQUIPMENT MOUNTING	**11%**
Install equipment into a rack or cabinet while providing for proper ventilation, power management, and mounting considerations in order to facilitate ease of use and maximum performance.	5%
Physically mount system components such as cameras, flat-panel displays, and projectors by installing the proper brackets, housings, and mounting hardware in order to provide proper performance and safety.	3%
Install power-management devices such as surge suppressors, battery backups, and power conditioners in order to ensure safe and maximized performance of installed systems.	3%
4. AUDIO/VIDEO SYSTEMS	**12%**
Set up audio devices such as sources, amplifiers, and speakers in order to produce a desired listening experience.	6%
Set up video devices such as sources and displays in order to produce a desired viewing experience.	6%
5. COMMUNICATIONS (TELEPHONY, DATA, CCTV, & RF)	**22%**
Set up basic telephony devices such as POTS and DECT phones and intercoms in order to establish basic voice communication.	1%
Set up a basic data network using typical home network devices (such as routers, switches, and wireless access points) in order for local connected devices to communicate with each other and with the Internet.	13%
Install and configure basic security and surveillance devices such as cameras and sensors in order to provide basic monitoring of secured areas.	4%
Set up terrestrial antenna, cable, and satellite (RF) TV systems, distribution, and equipment in order to provide proper reception of TV signals.	4%
6. INTEGRATED CONTROL SYSTEMS	**16%**
Set up basic control devices such as remotes, keypads, volume controls, and touchscreens in order to allow user control over electronic devices and systems.	11%
Set up basic lighting-control devices such as keypads, dimmers, and dimming interfaces in order to allow user control over the lighting system.	5%
7. SYSTEM VERIFICATION & TESTING	**13%**
Review the installed system in order to confirm compliance with design specifications.	7%
Verify system performance by testing device and system functionality in order to confirm proper operation.	6%

ELECTRONIC SYSTEMS CERTIFIED NETWORKING SPECIALIST (ESC-N)

CEDIA CERTIFIED NETWORKING SPECIALIST

Exam Length: 2 Hours
Exam Type: 100 Multiple-Choice Questions
Certification Validity: 3 Years
CEUs to Renew: 30

Virtually all technologies in the home are becoming part of the home network. If you think you've mastered the fundamentals of residential networking, including infrastructure, design, and configuration, then consider taking the CEDIA Electronic Systems Certified Networking Specialist (ESC-N) exam.

This exam is recommended for individuals with at least two years of experience in residential systems.

ESC-N EXAM BLUEPRINT

1. NETWORK INFRASTRUCTURE	26%
Install communications cabling in the home using industry standards and recommended practices in order to create a robust, reliable network infrastructure.	7%
Perform the required level of cabling test procedures in order to ensure system performance meets or exceeds design specifications and client expectations.	6%
Secure the infrastructure by evaluating and fortifying all network cabling locations (patch panels, wiring drops, NID, etc.) in order to ensure client privacy and information security.	6%
Design a wired network infrastructure using appropriate communications cabling that meets the performance requirements of the client in order to ensure long-term operation and reliability.	7%
2. NETWORK CONFIGURATION	**24%**
Understand the OSI model, how it applies to the network, and how to use this knowledge to efficiently and effectively troubleshoot and resolve network-related issues.	7%
Implement a Local Area Network using IP addressing best practices, sub-netting, and routing in order to ensure proper network functionality and long-term reliability.	8%
Implement a network that meets the performance requirements of all client devices in order to ensure proper functionality and long-term reliability.	9%
3. WIRELESS NETWORKING	**24%**
Survey and analyze the RF spectrum using available wireless networking tools in order to ensure performance and troubleshoot problems in a residential environment.	5%
Apply knowledge of existing wireless communication protocols (802.11a/b/g/n) in order to specify the proper hardware in a residential wireless networking application.	6%
Ensure reliability, security, and consistent performance of the wireless portion of a residential network by proper configuration of the SSID, channel, encryption standards, and security settings.	7%
Optimize the wireless network by implementing multiple access points and wireless network controllers in order to accommodate mobile devices as control interfaces and media streaming sources.	6%
4. NETWORK DESIGN	**26%**
Implement network segmentation within a residential setting through the use of VLANs and QoS in order to maximize performance of multiple client devices.	7%
Configure a home network with remote access through the use of VPN and port management in order to safeguard client information and allow interaction from external locations.	9%
Secure a home network using available hardware and software tools in order to protect client privacy and information from internal and external threats.	10%

ELECTRONIC SYSTEMS CERTIFIED DESIGNER (ESC-D)

CEDIA CERTIFIED DESIGNER

Exam Length: 2 Hours
Exam Type: 100 Multiple-Choice Questions
Certification Validity: 3 Years
CEUs to Renew: 30

This certification signifies mastery of designing and managing the completion of an overall residential system with clients and design and installation professionals. This exam is recommended for individuals with at least five years of industry experience who are focused on system design and project completion.

ESC-D EXAM BLUEPRINT

1. NEEDS ASSESSMENT	15%
Initiate and investigate the scope of a project using a structured information-gathering methodology to obtain customer information.	5%
Assess the site conditions by reviewing architectural plans and/or visiting the site in order to pre-empt architectural and structural complications.	3%
Establish the budget requirements by setting realistic expectations of deliverables, while explaining tangible quality differences in order to deliver the optimum performance/cost balance for the systems.	4%
Determine internal vs. external resource requirements for the system under design for the purpose of completing cost estimation.	3%
2. PROJECT DESIGN	**57%**
Create functional specifications by translating the results of the needs assessment into activity-based scenarios that can be understood by all project stakeholders.	4%
Create physical specifications by translating the results of the functional specifications into system requirements.	42%
Define the programming specification from the functional specification in order to determine what is to be controlled, the method and complexity of control, and the operational parameters including scripts, zone maps, and input/output relationships for the full integration of the system.	5%
Create the user interface specification by proposing physical control arrangements in order to provide control consistent with client needs.	4%
Direct the creation and evaluation of prototypes and/or working mock-ups to ensure design requirements.	2%
3. DESIGN DOCUMENTATION	**18%**
Create a proposal (bill of materials, resource list, and labor products) based on the cost estimate by generating appropriate documentation in order to communicate the requirements of the project.	3%
Generate electronic system plans for distribution to relevant parties by preparing or modifying architectural plans in order to determine the location of devices and wire routes, including installation and construction notes.	5%
Generate block diagram (single-line drawing) by showing basic system level interconnection between components and sub-systems in order to troubleshoot and illustrate signal flow and functionality.	2%
Create cable documentation (i.e., cabling plan and schedule) by describing the origin, destination, and type of each wire along with associated devices for distribution to associated trades.	3%
Generate point-to-point wiring diagram by describing the specific input-output, wire and connector types, and method of interconnection in order to document how the components will be connected.	2%
Compile and re-generate as-built drawings and operations/maintenance manuals by updating all post-installation construction documents.	2%
Prepare test specifications to verify system performance and functionality.	1%
4. DESIGN MANAGEMENT	**10%**
Assess the impact of change orders on the overall design.	5%
Monitor and document progress of the project to ensure design compliance.	5%

PREPARING FOR AN EXAM

1 SELECT THE RIGHT CERTIFICATION

Review the descriptions and read through the Job Task Analysis (JTA) to see the full scope of content covered.

cedia.net/esc-jta	cedia.net/esct-jta	cedia.net/escn-jta	cedia.net/escd-jta

2 TAKE THE PRACTICE TEST

The free online practice test will provide immediate results, allowing you to customize your learning plan and assess your general readiness for the exam.

cedia.net/esc-practice-test	cedia.net/esct-practice-test	cedia.net/escn-practice-test	cedia.net/escd-practice-test

3 ORGANIZE A LEARNING PATH

There is no prior training requirement to sit for any of the exams, but CEDIA does provide numerous online and print resources that align with each exam's content.

Online Study Materials

cedia.net/esc-exam-prep	cedia.net/esct-exam-prep	cedia.net/escn-exam-prep	cedia.net/escd-exam-prep

Printed Study Materials

The best comprehensive resources for study are CEDIA's printed books.

Fundamentals of Residential Electronic Systems	ESC, ESC-T
Advanced Residential Electronic Systems	ESC-T, ESC-N, ESC-D

Live Training Classes

CEDIA's exams are frequently offered in conjunction with regional Training Schools, tradeshows, Boot Camps, and half-day Certification Review classes. Check the current calendar of events for upcoming dates.

UK Training Facility – St. Neots, Cambridgeshire, United Kingdom	cedia.co.uk/cedia-events
US Training Facility – Indianapolis, IN CEDIA Expo, US & Global Events	cedia.net/events

EXAM REGISTRATION & SCHEDULING

KRYTERION™ GLOBAL TESTING SOLUTIONS

CEDIA partners with Kryterion Global Testing Solutions to offer CEDIA's exams year-round at over 1,000 test centers worldwide. To find a location near you, go to: **kryteriononline.com/Locate-Test-Center**

1 REGISTER ON CEDIA.NET

CEDIA will review your registration and send you a voucher, link, and instructions to setup an account in Webassessor.

cedia.net/esc-registration	cedia.net/esct-registration	cedia.net/escn-registration	cedia.net/escd-registration

2 CREATE A WEBASSESSOR ACCOUNT

This is CEDIA's online testing portal where you can choose your exam location, schedule, and view test results. If you are taking an online proctored exam, you will download the necessary software and launch exams from here.

3 SELECT YOUR EXAM TIME AND LOCATION

Once you have selected the exam, you will search through Kryterion's test center locations and see available time slots. Use the provided voucher to complete the registration. You can log back in to reschedule or cancel, but keep in mind that any changes less than 72 hours in advance of the original test time will incur an additional fee.

4 TAKE THE EXAM

When taking an exam at a testing center, please arrive up to 15 minutes early. You must have your Test Taker Authorization Code or the proctor will not be able to load your exam, and it may cause your test session to be forfeited without refund. You will be required to present two forms of identification. One must be a government-issued photo ID. Secondary identification must include your printed name, such as a credit card, bank debit card, or employee identification card. Note: In the United States, a Social Security card is not an acceptable form of identification.

TEST POLICIES

Appeals

Candidates who are denied certification may request reconsideration of denial by making an appeal to the Certification Board. This request must be made in writing to CEDIA Certification staff within 30 days of the test date and contain specific reasons for the appeal (i.e., technical difficulties during administration, fairness of execution, etc.)

Certification Board

Members of the Certification Board must have experience beyond that of the level being tested in the exam. SMEs who contribute directly to an exam's development will be awarded that certification through the next revision cycle. After the next exam revision is released, their certification follows regular renewal policies.

Confidentiality

All exams are confidential and proprietary to CEDIA. Examinees shall not disclose to any third party the contents of the exams, including, but not limited to, questions, form of questions, or answers, in whole or in part, in any form or by any means, verbal or written, electronic or mechanical, for any purpose.

Refund Policy

Purchased exams may refunded up to a week in advance of a scheduled test, after which they become non-refundable but may be rescheduled or transferred to another individual. Exams being taken at a Kryterion test center will incur an additional fee if rescheduled less than 72 hours in advance of the original test time.

Retest Policy

Candidates can take the exam up to three times within a 12-month period.

Special Accommodations

Arrangements for special accommodations should be made with CEDIA prior to scheduling your test session, and with at least 30 days' advance notice.

Test Aids

No test aids are allowed with the exception of calculators for those taking the ESC-D.

EXAM FEES

EXAM	Non-Member	Member
ESC-T, ESC-N, ESC-D	$400	$200
ESC	$300	$150
Retest Fee	$125	$125
Recertification Exam (Online Proctored)	$125	$125
Renewal Exam (Online Proctored)	$75	$75

All prices shown in USD

CERTIFICATION RENEWAL

EXAM	VALIDITY	CEU REQUIREMENT	RENEWAL TEST OPTION
ESC	5 Years	N/A*	No
ESC-T	3 Years	30	Yes
ESC-N	3 Years	30	Yes
ESC-D	3 Years	30	Yes

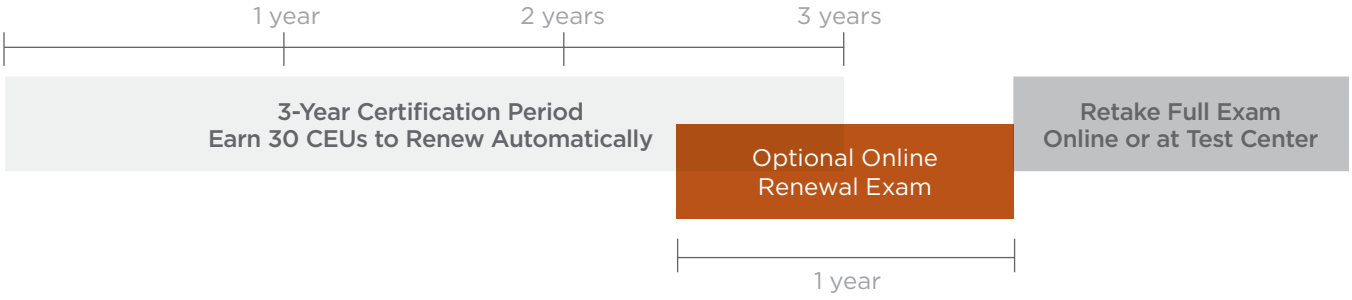
*ESC Certification holders are encouraged to earn higher certifications, but may retake the full exam to renew their certification.

OPTION 1: CEU RENEWAL

ESC-T, ESC-N, and ESC-D certifications are valid for three years and may be renewed by earning 30 continuing education units (CEUs).

OPTION 2: RENEWAL EXAM (ONLINE PROCTORED)

Persons holding an ESC-T, ESC-N, or ESC-D certification also have the option to take a 50-question "refresher" exam instead of earning CEUs. This exam is available from 6 months before until 6 months after the original certification's expiration date. The exam will have a sampling of standard questions from the JTA knowledge domains and at least 10 questions representing new technologies, concepts, or standards from the last 1-2 years. The time limit is one hour, and the passing rate is 70%.



Online Proctored Exams

Persons taking the renewal exam or retaking the full exam six months after expiration are eligible to take their exam online from their own computer. These exams are proctored live by CEDIA's testing partner, Kryterion, and make use of the candidate's webcam and microphone.

This proctoring service is available 24/7. Candidates will log into their Webassessor account to download the necessary Sentinel software, create their biometric profile, and schedule a time. Exams must be purchased first through cedia.net, where staff will verify that a candidate is eligible to take the exam online and provide them with a voucher.

Standard testing policies apply to online exams. More information and specific hardwire requirements can be found on the Kryterion Online Proctoring Support Page and in the Online Test Taker Manual.

CEU POLICIES

CEU Reporting

The certification period and CEUs are tracked in an individual's cedia.net account under MY CEDIA – MY TRAINING – TRANSCRIPT. Any CEDIA activity will automatically show on this transcript. Non-CEDIA training and activity should be submitted at cedia.net/Education/SubmitCEU where it will be processed within one week and added to the transcript.

Earning CEUs

Continuing Education Units (CEUs) may be earned in a variety of methods of learning and engagement within the industry. The Certification Board will have the final authority on determining CEU values.

At least 10 of the 30 CEUs must come from CEDIA-related activity.

CEDIA EDUCATION	
Expo Course	1 CEU/hour
eCourse	1 CEU/hour
Webinar	1
Tech Council Podcast	0.5
Tradeshow Attendance at CEDIA Expo, ISE, Integrate	5

INDUSTRY EDUCATION	
Manufacturer Product Training	0.5 CEU/hour
Industry training not specific to a brand or product	1 CEU/hour
State or local licensing training	1 CEU/hour
Relevant college coursework	1 CEU/hour

CEDIA VOLUNTEER & PROFESSIONAL ENGAGEMENT	
Teach a COI outreach class	1
Instruct a CEDIA class	1 CEU/hour
Serve as a panelist	1 CEU/hour
Working Group member (1 year)	5
Advisory Council member (1 year)	5
Task Force member (1 year)	5
Board member (1 year)	5
SME contributor	varies

INDUSTRY VOLUNTEER & PROFESSIONAL ENGAGEMENT	
Serve as a panelist	1 CEU/hour
Instruct a class	1 CEU/hour
SME contributor	varies
Industry-related volunteer position	varies

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