

# ETA® International

2016 Certification Catalog

ETA® International 5 Depot Street Greencastle IN 46135 (765) 653-8262 www.eta-i.org



### PRESIDENT'S LETTER

#### **Table of Contents**

President's Letter	2
About ETA	
Preparing for an ETA Certification Exam	
Taking an ETA Exam	
ETA Certifications	
ETA Membership	
Where are ETA-Certified Individuals?	

#### Dear Certification Seeker,

Today, electronics is one of the fastest growing industries. We have come a long way from vacuum tubes and mechanical switches. ETA® International has remained committed to serving technicians and modeling certification programs to keep pace with emerging technologies.

ETA offers a career path that ranges from students with little or no experience to a master level for those who have dedicated several years to improving and expanding their skill sets. ETA International's certifications are important for both individuals and business organizations.

#### For an individual, certifications:

- · are a quantifiable milestone of achievement
- · are a way to benchmark skills sets
- link competency to compensation
- enable advancement or flexibility in conditions of job change or advancement
- create industry visibility of one of the highly recognized electronics certifications
- are personal and portable certifications
- show levels of certification progression and disciplines to continued skills development
- · are proof of mastery of the technologies in the industry

#### For a business/organization, certifications:

- show workmanship that results in both internal and external customer satisfaction
- enhance credibility within the organization and with external customers
- identify employees who are qualified to provide leadership to team members
- · maximize investment by accurately determining individual and organizational training needs
- support decisions of appropriate skill level when hiring or promoting
- support employee retention plans present new challenges and career path choices to employees
- · provide the company with confidence that contracted vendors are technically qualified

#### For a school/training facility, certifications:

- · increase curriculum value by providing industry-recognized credentials
- · increase marketability of programs
- provide end of course assessments
- satisfy Perkins and other federal requirements
- allow participating states to give students verified credits

ETA distinguishes itself from other associations by being an organization primarily composed of individuals. ETA is comprised of technicians from every conceivable area of electronics, communications, and technology. The interchange of information and the broad viewpoints that members are exposed to creates a unique and valuable entity.

The intent of ETA is to *Connect* (leaders in our industry); *Innovate* (through networking and discussions); and *Evolve* (initiatives that revitalize and strengthen our industry). This information booklet will help move you forward in your industry through certifications.

Sincerely,

Teresa Maher, CSS, KD9DCV President

Juera J. Maker

### ABOUT ETA

#### **History**



ETA<sup>®</sup> International (Electronics Technicians Association, International) founded in 1978, is a not-for-profit, professional association promoting excellence in electronics technologies through certification.

The association's initiatives are to provide prominent certification programs of competency criteria and testing benchmarks that include international electronics standards and provide renowned professional electronics credentials.

The organization began with leaders like Richard "Dick" Glass, CETsr, Ron Crow, CETma, D.C. "Snow" Larson, CET and others who had earned much respect in the electronics industry. In the late 1970s, the founders decided never to affiliate too closely with any manufacturer. ETA was to be truly a group of technicians by technicians for

technicians. Today, ETA is a strong and well-known organization with over 5,000 members and over 200,000 certifications and licenses delivered to date. ETA's focus is to help new and upcoming technicians and the technical schools they attend achieve their career goals.

Although certification, specifically, was not an original goal, it occurred naturally as ETA grew. As a non-vendor-specific, independent third-party certifying organization, ETA receives inquiries each month from schools asking for assistance in either recommending and/or certifying curriculums or texts. In addition, the U.S. military, through their individual education offices, has an agreement with ETA for both CET and FCC Commercial License testing at all U.S. military facilities worldwide.

ETA is not only strong in the certification field, but it provides many other services for technicians and electronics service firms. ETA has participated in governmental law and rule-making by commenting on behalf of technicians regarding pending local, state, or national actions of governments. The association works closely with other organizations such as the Army, Navy, Marine Corps, and Air Force COOL programs, National Technical Honor Society (NTHS), U.S. Department of Labor's Career One Stop, the FCC, and Certified Service Centers as well as other local, state, national, and international groups.



While ETA membership is also available to service dealerships and other institutions, the typical member is an electronics technician. By having a membership composed of technicians from every conceivable area of electronics, communications and networking technology, the interchange of information and the broad viewpoint members are exposed to creates a unique and valuable entity.

Hundreds of members have taken an active role in the association by participating as area representatives, becoming certification administrators, writing for the publications and journals or by teaching a class at seminars and conventions. ETA is not just an association that collects your dues and then issues an occasional report. It is a fellowship of technicians who love their jobs and see ETA as the adhesive that binds real professional technicians together for the greater good.

#### **Benefits of ETA Certification**

ETA certification signifies that the holder has demonstrated professional proficiency and has the technical knowledge and hands-on skills to meet international electronics industry standards.

#### Earning an ETA certification:

- Gives U.S. Armed Forces personnel validation of their Military Occupational Skill (MOS) training for meeting active duty responsibilities and transitioning to civilian careers as veterans
- Allows high school and postsecondary students, as well as working adults seeking new employment opportunities, to demonstrate and
  validate their technical electronics knowledge and skill with recognized industry credentials
- Assists experienced industry professionals in advancing their knowledge and excelling in their careers
- Provides employers with clear criteria for hiring and promotion that can lead to enhanced productivity and customer satisfaction.

ETA certification exams are administered by ETA Certification Administrators, which ensures quality control. ETA testing sites are easily accessible with over 1,000 exam administrators at colleges, businesses, trade schools, and military bases worldwide.

### ABOUT ETA

#### **Industry-Recognized Standards**

An ETA certification signifies that the holder demonstrates professional proficiency within a certain discipline. Certification holders are recognized as having the necessary knowledge and technical skill to design, install, service, or repair electronic equipment according to industry standards—not specific to a manufacturer, vendor, or product.

Since 1965, the program has been proven effective. Aligning with the ISO 17024 standard, and collaborating with education providers and industry professionals, ETA provides the criteria which tests the knowledge and/or hands-on skills needed in today's electronics industries. However, ETA constantly seeks information from employers, schools, and individuals verifying the validity and current relevance of its assessments.

Global Skills X-Change's (formerly National Skills Standards Board) feasibility study concluded the ETA program was among the best industry certification programs available.

#### Accreditation:

ETA's industry-based examinations are modeled after international competency standards. Each discipline utilizes its own group of educators and practitioners, plus industry-wide reviews, to align with the industry standards. The standards clearly articulate the skills and knowledge relevant to specific segments of the industry. ETA certifications are personal, portable worldwide, and are accredited by the International Certification Accreditation Council (ICAC). ICAC is an alliance of organizations dedicated to assuring competency, professional management, and service to the public by encouraging and setting standards for licensing, certification, and credentialing programs.

#### **About ICAC**



In 1996, a group of association executives chartered the ICAC as a not-for-profit organization with the purpose of evaluating certification programs at an affordable rate that smaller organizations can afford. Over the years, the ICAC has developed a comprehensive process to evaluate certification programs against international standards. In this way, accredited organizations can both improve existing certification programs as well as demonstrate to the public that their programs comply with industry best practices.

By accrediting certification programs, the public and the industries represented have an additional level of assurance, knowing that the program has been reviewed by a neutral third party and been found to meet or exceed reasonable levels of record keeping, security, objectivity, and professionalism.

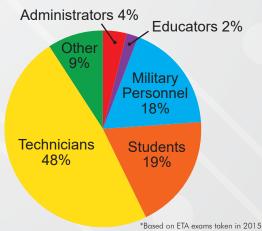
The ICAC itself operates under the international guidelines established as a quality assurance regime for accreditation bodies (ISO/IEC 17011 – Conformity Assessment: General Requirements for Accreditation Bodies Accrediting Conformity Assessment Bodies), and has established assessment tools and processes that assure certification bodies are in compliance with ISO/IEC 17024 (2012): Conformity Assessment – General Requirements for Bodies Operating Certification of Persons.

#### **Who Takes ETA Exams?**

ETA certifies professionals from many different areas and industries. Whether it's a military fiber installer, biomedical technician, service manager, or student, ETA has you covered! Every year ETA creates a shapshot of professionals and students who have taken an ETA exam during the previous year. You can see the results from 2015 on the right.



ETA certifications are listed on the Career One Stop website. Career One Stop is sponsored by the U.S. Department of Labor, and is a partner of the American Job Center network. The website provides tools to help job seekers, students, businesses, and career professionals find their pathway to success. Please visit www.careeronestop.org for more information.



Fostering Excellence Through Certification Since 1978

### **ABOUT ETA**

#### **Certification Administrators**



ETA believes that legitimate third parties, such as experts, practitioners, and instructors in the field, rather than those who may have a direct interest in the outcome of the programs, should administer and approve certified electronics technicians exams. ETA serves as that third party administrator to technical education, providing a way for school systems to validate their electronics courses.

ETA continually strives to make its exam testing sites easily accessible for examinees who wish to take one of the more than 80 different ETA certification exams. We currently have 1,000 exam administrators at college electronics programs, community colleges, trade schools, military bases, proprietary trainers, and vocational-technical schools throughout the world. If your accredited institution/school or training facility is interested in becoming an ETA-approved examination site, please complete the Certification Administrator application. Print a copy of the agreement form for your records and email an additional copy of each form to us at eta@eta-i.org.

Authorization to administer ETA certification exams is given to the individual. By gaining approval from ETA's President, a Certification Administrator's location is listed for the public to contact using the CA Locator. CAs are given the option to have their location listed or remain private. Upon approval, a CA may proctor all ETA certification exams that do not require hands-on skills assessments and FCC commercial operator licensing exams.

#### **Course Approvals**

Approval of training for technicians is not something that should be done solely by educators who work mostly with the theoretical side of the field being critiqued. It should also not be done by those with a direct interest in the course providers. It should be done by a legitimate third party - composed of experts in the field; practitioners and educators at all levels. ETA has a network of more than 600 Subject Matter Experts (SMEs) in place to assist with course and text reviews. ETA's Subject Matter Experts span all of the fields of certification available through ETA.

Today, with many governmental agencies (at all levels) looking to validate their educational processes, the need for recognition has become a mandate. Some states now use ETA certification as 3rd party final exams for electronics course students, but the process is not yet complete. A more formal program of validation is still needed. School systems are requiring the educational institutions to prove that their training actually is giving the student his or her



money's worth. They want proof that the time and money spent in learning this profession will pay off with a good career after graduation.

ETA has instituted a program to answer this call for help. We currently have over 1,000 Certification Administrators along with our 600 Subject Matter Experts. Because of this extensive network, ETA is in a position of being accountable to industry for reliable test results. ETA serves in its capacity as a 3rd party to technical education, providing a way for school systems to validate their courses. ETA is meeting these industry and educational needs.

ETA provides third-party reviews that many schools require of electronics courses, evaluating the instructor credentials, lab and classroom equipment, course outlines, etc. The reviews have been used by all levels of education, both public and commercial, as well as military.

#### **State Representatives**



ETA has both state and national representatives who promote ETA within their community. We are always looking for new members to apply. Holding the title of state and/or national representative includes duties such as promoting ETA; contacting ETA with any local developments reported by the industry or in the education of electronics related fields; offering clarification, when a situation arises in the area, and providing further details; for example, a licensing requirement or change; reaching out to local schools or businesses with ETA material; visiting a school or business which has shown interest in ETA; being available to attend a show or event, including a career day or job fair.

### Preparing for an Exam

#### **ETA Certification Administration**

ETA has over 1,000 certification administrators (CAs) around the world. Each examination must be proctored by a CA. To find a CA, either visit the ETA website or call ETA. If a test site is not near the examinee's location, then please call ETA at (765) 653-8262, or email at eta@eta-i. org for more information. All ETA exams must be proctored by an independent third party.

#### **ETA Examination Materials**

ETA aligns with individual professional goals, vocational and education curriculums, and businesses' resource initiatives through certification programs, conferences, speaking engagements, books, and journal publications. ETA actively supports training and education through the development of study guides and seminars, as well as working with a large number of ETA-approved schools and courses. ETA also works with high schools, vocational schools, colleges, universities, educators, corporate trainers, correctional facilities, and electronics industry professionals to find proper and sufficient training resources in their area.

When preparing for an ETA certification examination, examinees are encouraged to use suggested study materials listed on the available competencies. In addition to the many offerings in the ETA Online Store, ETA offers study materials developed exclusively for the ETA Customer Service and Associate CET examinations. These were written by ETA professionals for ETA professionals.



### The Customer Service Specialist Study Guide, 5th Edition \$25 Members / \$30 Non-Members

The CSS Study Guide contains all of the workforce readiness and soft skills information in previous editions plus new chapters such as Social Media. The best way to prepare for the popular Customer Service Specialist exam also prepares you for working with other technicians and service personnel at your place of employment and at the other firms your company may deal with. It contains chapter quizzes and an overall practice exam quiz similar to the actual CSS exam.

The information contained in this guide is applicable to anyone who works with the public: helpdesk, sales, educators, business owners, nurses, repair technicians, and co-workers!



### The Associate CET Study Guide, 6th Edition \$50 Members / \$60 Non-Members

The latest edition is now available. It features 22 chapters authored by 16 practicing technicians and instructors from around the world, as well as new practice exams and test site locator access.

Technical topics range from Electronic Components, DC Circuits, Microprocessors and Transmitters to essential skills every Certified Electronics Technician needs such as Record Keeping and Technical Writing. Each chapter is followed by a practice quiz and the entire guide is covered in a final Online Practice Examination, which will further prepare an individual for the Associate CET examination. It also comes with a link to a complete online listing of current Certification Administrator locations. With this, an exam candidate can easily find a location for testing.

ETA's store also offers study materials created by ETA members for ETA certifications. These materials are tailored to their specific certification exams.



The EM-series of study guides gives students the knowledge they need to qualify as entry-level technicians, and provides the necessary foundation for further studies in specialized fields. The study guides are closely coordinated with the ETA competencies and exams. Each study guide builds on the one before it. Together they form an efficient, no-time wasted path to knowledge and certification.

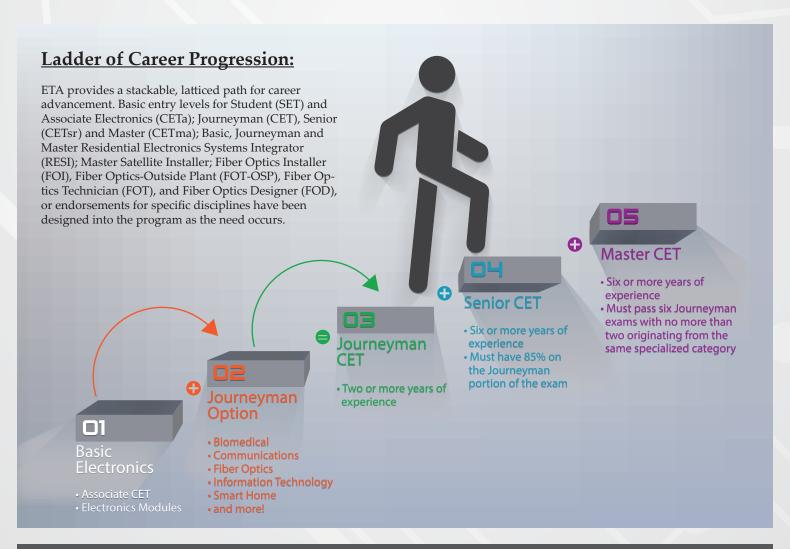
The basic goal of the study guides is the same as the goal of the EM certifications themselves: each milestone on the way to eventual mastery is useful in and of itself, giving students immediately useful information and permitting them to earn graduated certifications commensurate with their growing knowledge.

There are 5 EM study guides covering: DC Basics; AC Basics; Analog Basics; Digital Basics; Comprehensive. Please visit www.eta-i.org to order.

### TAKING AN ETA EXAM

#### **Taking an ETA Examination**

- 1. Decide which ETA certification(s) you would like to take and review the free objectives/competencies provided by ETA. Call to see if additional study materials are available.
- 2. Find an ETA certification administrator (CA) close to you to proctor the exam. You can search ETA's online database of test sites at www.eta-i.org/test\_sites.html, or contact ETA at (765) 653-8262.
- 3. Decide whether to take the exam online with Trapeza or paper/pencil. Note: A certification administrator must be present regardless of which test format is chosen.
- 4. Arrange a time to take the exam with the chosen certification administrator.
- 5. Arrive early with the proper materials to take the exam. You may bring scratch paper and a non-programmable calculator to the exam. For most exams, you will be given two hours if needed. Photo ID and #2 pencils required. No electronic devices are permitted.
- 6. Once completed, the certification administrator will submit your exam and information along with payment. If you test online with ETA, then you will be able to view your score(s) immediately.
- 8. Examinations are processed within 7-10 business days of arrival at ETA headquarters. However, scores may be requested online through the ETA website (www.eta-i.org/exam\_results.html).
- 9. If you fail an ETA certification examination taken with pencil/paper, then you may then request an examination review which covers the questions you missed. AST112, AVN299, TRN112, BIET103, GVT111, and CSM107 examination reviews are available. Examination reviews are available for an additional \$25.00.
- \*\*As provided for under the ADA (American's with Disabilities Act), if you require special needs accommodation in order to complete the certification process, then please notify your Certification Administrator when scheduling your exam.



#### **BASIC ELECTRONICS**

#### Apprentice Electronics Technician (APP)

The telecommunication Apprentice certification program (APP) is designed to only measure the knowledge of basic direct and alternating current theory as well as basic technical mathematics necessary to begin a training program in this field. Knowledge of cabling, power supplies, test equipment, as well as safety are also measured. This program is primarily targeted towards those who wish to pursue a technical career in the telecommunications industry and want to demonstrate their ability and knowledge to benefit from an in-company or company sponsored technical training program. (*This exam does not replace the Associate Certified Electronics Technician (CETa) certification.*)

APP Exam Info	
Price:	\$60
Type of Certification:	N/A
Renewal/Maintenance Required:	No
Certification Term:	3 Yrs
Hands-On Required:	No
Questions on Exam:	75
Passing Score:	75%
Time Allowed to Test:	2 hours



#### Associate Certified Electronics Technician (CETa)

\*Associate exam FREE if taken with a Journeyman exam at the same time.

The Associate certification is designed for technicians who have less than two years experience or trade school training for electronics technicians. The Associate certification is valid for four years. It is also the foundation for the Journeyman certification program. The CETa is more in-depth than the Student Electronics Technician (SET) as it expands on all of the topics listed within the SET. The CETa is now a renewable certification.

CETa Exam Info	
Price:	\$60
Type of Certification:	Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	No
Questions on Exam:	100
Passing Score:	75%
Time Allowed to Test:	2 hours

#### **Electronics Modules (EM1-5)**

The EM5 program is based on ETA's Associate level certification (CETa). The CETa competencies have been divided into five sections called "modules." The purpose of this is to align with a growing portion of the electronics education industry that is charged with providing electronics training that does not include the total content of traditional Basic Electronics courses. In some instances, technical institutions are asked to provide training in only certain portions of electronics. This is so that companies that need only narrower skills and knowledge (than one expects of a complete CETa) can employ workers who have required knowledge.



expects of a complete CETa) can employ workers who have required knowledge and skills for only the technology and processes they currently use at that company.

To provide a path for the technician leading to the CETa credential, the five BASIC modules of the CETa can be acquired individually. Once a technician attains all five module certifications, ETA will issue an official CETa certification (all five must be passed within a two-year period). The technician may also choose to gain only those modules needed in order to be employable.

The five basic Electronics Modules are:

- Direct Current (DC)
- Alternating Current (AC)
- Analog
- Digital
- Comprehensive

EM1-5 Exam Info	
Price:	\$25 each
Type of Certification:	Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	No
Questions on Exam:	75
Passing Score:	75%
Time Allowed to Test:	2 hours

#### **Student Electronics Technician (SET)**

The SET allows high school students and entry-level technicians the opportunity to earn a basic beginner's certification. The examination covers a variety of topics including: Electrical Theory; Electronic Components; Soldering-Desoldering and Tools; Block Diagrams-Schematics-Wiring Diagrams; Cabling; Power Supplies; Test Equipment and Measurements; Safety Precautions; Mathematics and Formulas; Electronic Circuits; Series and Parallel; Amplifiers; Interfacing of Electronics Products, Digital Concepts and Circuitry; Computer Electronics; Computer Applications; Audio & Video Systems; Optical Electronics; Basic Telecommunications; and Technician Work Procedures. The SET also has an optional hands-on component that can be used as a part of the training process and will be noted upon completion and passing of the SET examination.

SET Exam Info	
Price:	Varies
Type of Certification:	N/A
Renewal/Maintenance Required:	No
Certification Term:	2 Yrs
Hands-On Required:	No
Questions on Exam:	100
Passing Score:	75%
Time Allowed to Test:	2 hours



Through a partnership with ETA, the Student Electronics Technician is administered by NOCTI. Please visit www.nocti.org for information on taking the SET as well as costs for the exam and optional hands-on component.

#### **BIOMEDICAL**

#### Biomedical Electronics Technician (BMD) Journeyman Option

BMD - \$75.00

Biomedical electronics technicians are expected to obtain knowledge of the principles of modern biomedical techniques, the proper procedure in the care, handling, and maintenance of biomedical equipment and to display an attitude/behavior expected of an electronics technician who works in a hospital or healthcare environment

#### Biomedical Imaging Equipment Technician (BIET) Journeyman Option or Stand-Alone

BIET - \$75.00

A BIET should be familiar with the following topics: Anatomy, Medical Terminology, Computer, Electro/Mechanical Safety, Picture Archive Communication System, Diagnostic Ultrasound Equipment, Building Wiring, Basic Radiographic Equipment, Film Processing, Test Equipment, Magnetic Resonance Imaging, Computed Tomography, Nuclear Medicine, Codes and Regulations, Troubleshooting, Radiation Safety, Radiation Physics, and Linear Accelerators.

If you hold a Standalone BIET and later complete the Associate CET (CETa), then you are eligible to upgrade to a Journeyman CET! To apply for the Journeyman CET, you must have two or more years of combined work and electronics training. To upgrade, please fill out the Journeyman CET upgrade form. Journeyman upgrades are \$50.

BMD Exam Info	
Price:	\$75
Type of Certification:	Journeyman
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	No
Questions on Exam:	75
Passing Score:	75%
Time Allowed to Test:	2 hours

<b>BIET Exam Info</b>	
Price:	\$75
Type of Certification:	Journeyman or Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	No
Questions on Exam:	100
Passing Score:	75%
Time Allowed to Test:	2 hours

#### **ETA SUBJECT MATTER EXPERTS**

ETA's exam advisory boards, specific for each certification, are composed of subject matter experts (SMEs) who are demographically and educationally diverse with a broad range of experience. ETA's three-step process for evolving competencies is now used by the all-industry National Coalition for Electronics Education (NCEE) in arriving at curricula and competency standards. You can learn more about NCEE at www.ncee-edu.org.

Certification committees require decisions on when the current exam(s) should be replaced; editing, adding, deleting current exams; seeking input to aid in keeping exams at the current state of the technology; inputting new questions and graphics; reviewing questions; editing the beta exams and going over new exams with a 'fine tooth comb' to make sure errors are at a minimum. Chairpersons can help by seeking out new committee members or other experts to help hone the exams and policies. Bear in mind that ETA does not know of any other industry association that has the wide range of certification programs ETA does. When the CET program started in 1966, ETA had one exam. That was for the radio-TV technician. So you see why the committee chair is so important to the profession. Task analysis by educators, employers, and practitioners is an important part of the process of developing industry-based competencies, upon which the certification exams are based. Both internal and external judgments are included in development.

ETA's panels of experts are second to none. Strong educator input by committees of SMEs, multiple reviews by the ETA Advisory Board, many national associations, and technicians currently working in the field provide a level of review unprecedented in the electronics industry. Educators, practitioners, students, and employers have subjected ETA's assessments to critical scrutiny. Reliability, Validity, and Consistency are hallmarks of ETA certifications. ETA examinations are reviewed for updating each year.



If you would like to volunteer as a SME, then please visit www.eta-i.org/subject\_matter\_experts.html and contact ETA's test development department.

#### COMMUNICATIONS

#### Broadband-Voice over Internet Protocol (B-VoIP)

B-VoIP technicians are versed in telephone and Internet communications. They install, maintain, and repair/replace voice, data, and video over Internet Protocol equipment. They are capable of interconnecting B-VoIP equipment to local and wide area computer network systems. They are familiar with many acronyms used in the telecom industry. They are capable of performing cable installation, replacement/modernization and interconnection between different cable types and wireless equipment. They are knowledgeable in the protocols being used for the telecommunications industry. They are capable of configuring and provisioning B-VoIP equipment and transmission media.

#### Certified Satellite Installer (CSI)

CSI Endorsements - \$60.00 ea.

\*Certified Satellite Installer exam FREE if taken with all four endorsements at the same time

The exams are practical and cover a broad range of hardware and broadcast technology, but are not limited to specific brands of products. The CSI covers: Satellite Communications History & Theory, Satellite Dish Reflectors, Cabling, Amplifiers, Satellite Dish Feed—horns – LNBs & LNBFs, Satellite System Installation – Site Surveys, Satellite Receivers – Digital Technology, Interfacing With Other Consumer Electronics Equipment, Transmission – Internet Systems, Troubleshooting, Repairs, Sun Outage, and Safety.

#### Available CSI Endorsements:

- Antenna
- C and KU Band
- Commercial
- S-MATV

Each of the four endorsements (Antenna, C and Ku Band, Commercial, and SMATV), if taken at separate times, is \$60 per endorsement; if the CSI and all four endorsements are taken at the same time it is \$240 - a price break of \$75; if you already have your CSI and later take all four of the endorsements at the same time the price is \$180 - a \$60 price break.

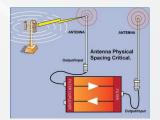
If you hold a Standalone CSI and later complete the Associate CET (CETa), then you are eligible to upgrade to a Journeyman CET! To apply for the Journeyman CET, you must have two or more years of combined work and electronics training. To upgrade, please fill out the Journeyman CET upgrade form. Journeyman upgrades are \$50.

B-VoIP Exam Info	
Price:	\$150
Type of Certification:	Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	Yes
Questions on Exam:	75
Passing Score:	75%
Time Allowed to Test:	2 hours

CSI Exam Info	
Price:	\$75
Type of Certification:	Journeyman or Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	No
Questions on Exam:	50
Passing Score:	75%
Time Allowed to Test:	2 hours

#### Distributed Antenna Systems (DAS)

Distributed Antenna Systems technicians and installers cover basic knowledge concepts of distributed antenna systems and antenna installation. This also includes service and skills applicable to all of the functions required to safely and completely install, maintain, troubleshoot and provide support of in-building distributed antenna systems, communications and electronic equipment.



#### DAS Exam Info \$100 Type of Certification: **Journeyman** Stand-Alone Renewal/Maintenance Required: Yes Certification Term: 4 Yrs Hands-On Required: No Questions on Exam: 75 Passing Score: 75% Time Allowed to Test: 2 hours

#### General Communications Technician — Level 1 (GCT1)



The General Communications Technician certification is a program that is modeled after communication systems basics and the U.S. Department of Homeland Security (DHS) guidelines covering all of the disciplines in the COMT program. The purpose of the GCT is to provide a study guide and training program, along with the appropriate certification testing that covers all of the areas a radio communications technician and engineer will encounter in the public safety communications or business/commercial radio field.

GCT1 Exam Info	
Price:	\$100
Type of Certification:	Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	No
Questions on Exam:	75
Passing Score:	75%
Time Allowed to Test:	2 hours

#### **COMMUNICATIONS** CONT.

#### General Communications Technician — Level 2 (GCT2)

 $^*$ Prerequisite is the General Communications Technician — Level 1 or Associate CET (CETa) certification

The General Communications Technician Level 2 certification is a program modeled after general industry communication systems encompassing more than the basics along with the U.S. Department of Homeland Security (DHS) guidelines covering all of the disciplines in the COMT program. The purpose of the GCT2 is to provide a certification program and testing that expands upon the coverage included in the GCT1 competencies. The GCT2 competency comprises more complex areas radio communications engineers and technicians will encounter in the public safety communications or business / commercial radio fields. This GCT2 certification will involve more knowledge of intricate skills and troubleshooting. The GCT program will require re-testing to renew every four years to keep current in the newest technology for all Levels.

GCT2 Exam Info	
Price:	\$100
Type of Certification:	Journeyman
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	No
Questions on Exam:	100
Passing Score:	75%
Time Allowed to Test:	2 hours

#### Line & Antenna Sweep (LAS)

This Frequency Domain Reflectometer (FDR) certification includes hands-on testing and verification of line and antenna sweeping skills using modern FDR equipment, as well as a written exam. The LAS is a standalone certification, but it can be used as a Journeyman CET option when the Associate, or basic electronics, is also passed.

If you hold a Standalone LAS and later complete the Associate CET (CETa), then you are eligible to upgrade to a Journeyman CET! To apply for the Journeyman CET, you must have two or more years of combined work and electronics training. To upgrade, please fill out the Journeyman CET upgrade form. Journeyman upgrades are \$50.

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#### Mobile Communications and Electronics Installer (MCEI)

This certification includes basic knowledge concepts of land mobile radio (LMR) and associated electronics equipment installation. This also incorporates required skills applicable to all of the functions required to safely and completely install mobile communications and associated electronic equipment, including removal and reinstallation.

If you hold a CEA Mobile Electronics Certified Professional (MCEP) certification, then you are eligible to rollover to an ETA Mobile Communications and Electronics Installer certification! To apply, you will need to send a copy of your MCEP certificate to ETA via fax (765) 653-4287 or email, and fill out the printable form. You may also fill out the online form. MCEP rollovers are \$100.

MCEI	Exam Info	
Price:		\$100
Type o	f Certification:	Stand-Alone
Renewa	al/Maintenance Required:	Yes
Certific	ation Term:	4 Yrs
Hands-	On Required:	No
Questio	ons on Exam:	75
Passing	Score:	75%
Time A	llowed to Test:	2 hours

#### Passive Intermodulation Testing (PIM)

Passive Intermodulation (PIM) is a form of interference where intermodulation mixing occurs within the confines of the transmission line and antenna network of a radio system. The ETA PIM certification assures site managers that quality antenna installation has taken place and meets the desired engineering and propagation standard for that site. The PIM test set operator knows how to use the testing equipment hardware, and can do so in a safe and harmless manner. Additionally, the ETA certification is based on the IEC 60237 standard covering the installation of antennas, connectors, jumpers, and related antenna network elements, allowing the holder of that certification to use any manufacturer's test set at any frequency range. An ETA certified technician has a clear understanding of antenna theory and interference testing and will be well positioned to help resolve site PIM issues, so resolving these interference issues will be easier for the ETA-certified technician.

PIM Exam Info	
Price:	\$125
Type of Certification:	Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	Yes
Questions on Exam:	50
Passing Score:	75%
Time Allowed to Test:	2 hours

#### Personal Communication Service-Cellular (PCS-C)

A Personal Communication Service-Cellular examination will cover a variety of categories. A PCS—C must be familiar with: RF transmit, propagate and receive principles, Technical Procedures, Technical capabilities, Test Equipment, Knowledge of Components, Antennas, Frequency bands, Customer Relations, Safety, and Regulations.

If you hold a Standalone PCS-C and later complete the Associate CET (CETa), then you are eligible to upgrade to a Journeyman CET! To apply for the Journeyman CET, you must have two or more years of combined work and electronics training. To upgrade, please fill out the Journeyman CET upgrade form. Journeyman upgrades are \$50.

PCS-C Exam Info	
Price:	\$75
Type of Certification:	Journeyman or Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	No
Questions on Exam:	75
Passing Score:	75%
Time Allowed to Test:	2 hours

#### **COMMUNICATIONS** CONT.

#### RF Interference Mitigation (RFIM)

RF interference mitigation technicians are expected to obtain knowledge of radio frequencies, how they interact in the environment and within equipment, how to identify and to correct interference problems. Prior experience with radio systems and equipment is strongly suggested (or taking a RF Interference hunting course) before taking this certification exam.

#### Radar (RAD)

Radar electronics technicians are expected to obtain knowledge of radar basics and concepts, which are then applicable to various types of avionics, maritime, and land radar systems. Radar electronics technicians must be knowledgeable and have abilities in the following technical areas: Block Diagrams and Schematics, Components, Cabling and Antennas, Hand Tools & Soldering, Mathematics, Amplifiers, Radar Transceivers, Interfacing, Satellite, Wireless, Data Communications, Computers and Digital Concepts, Software-Programming, and Troubleshooting.

If you hold a valid FCC Element 8, and either the ETA Associate CET (CETa) or a Journeyman (CET) certification, then you are eligible for a rollover to an ETA RADAR certification! To apply, you will need to send a copy of your Element 8 certificate to ETA via fax (765) 653-4287 or email, and fill out the printable form. You may also fill out the online form. Element 8+ rollovers are \$75.

# RFIM Exam Info Price: \$100 Type of Certification: Stand-Alone Renewal/Maintenance Required: Yes Certification Term: 4 Yrs Hands-On Required: No Questions on Exam: 100 Passing Score: 75% Time Allowed to Test: 2 hours

RAD Exam Info	
Price:	\$75
Type of Certification:	Journeyman
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	No
Questions on Exam:	50
Passing Score:	75%
Time Allowed to Test:	2 hours

#### TRN Wireless Communications Technician (TRN)

A wireless communications certification focused primarily on the private wireless industry. The TRN (formerly USMSS) is based on the Wireless Communications (WCM) competencies with the addition of areas related to LMR.



Founded in 1998, Technology Resource Network International (TRN) is an international association of more than 150 locally owned, technology companies who are Certified Service Centers with their roots in the Wireless Communications Industry. Visit their website at: www.techresourcenet.org

#### Telecommunications (TCM)

Telecommunications electronics technicians are expected to obtain knowledge of wired and wireless communications basic concepts, which are then applicable to various types of voice, data and video systems. Telecommunications Electronics Technicians must be knowledgeable and have abilities in technical areas such as: Cabling, Analog Telephony, Equipment, Telecom Safety and Mathematics, Transmission Service Providers and Protocols, Distribution Methods, Digital Telephony, Interfacing, and Troubleshooting.

If you hold a Standalone TCM and later complete the Associate CET (CETa), then you are eligible to upgrade to a Journeyman CET! To apply for the Journeyman CET, you must have two or more years of combined work and electronics training. To upgrade, please fill out the Journeyman CET upgrade form. Journeyman upgrades are \$50.

#### Wireless Communications (WCM)

The following are some of the topics considered necessary for those workers performing installation, maintenance and repair of mobile and fixed radio communications systems: Radio Theory, Components, Basic Analog Circuits, Antennas/Towers, Cabling and Connectors, Block Diagrams, Grounding – Lightning Protection, Radio Mathematics and Formulas, Interfacing, Computer and Digital Circuits, Mobile Systems, Frequency Bands for Mobile Communications, Troubleshooting, Commercial Radio Networks, Modulations Schemes, Control Systems, RF Interference/RF Coverage Analysis, Testing, and Diagnosis.

If you hold a valid FCC GROL, and either the ETA Associate CET (CETa) or a Journeyman (CET) certification, then you are eligible for a rollover to an ETA Wireless Communications (WCM) certification! To apply, you will need to send a copy of your GROL certificate to ETA via fax (765) 653-4287 or email, and fill out the printable form. You may also fill out the online form. GROL rollovers are \$75.

TRN Exam Info	
Price:	\$100
Type of Certification:	Journeyman or Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	No
Questions on Exam:	100
Passing Score:	75%
Time Allowed to Test:	2 hours

TCM Exam Info	
Price:	\$75
Type of Certification:	Journeyman or Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	No
Questions on Exam:	75
Passing Score:	75%
Time Allowed to Test:	2 hours

WCM Exam Info	
Price:	\$75
Type of Certification:	Journeyman
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	No
Questions on Exam:	100
Passing Score:	75%
Time Allowed to Test:	2 hours

#### FIBER OPTICS AND DATA CABLING

#### ARINC Installer, Technician (AFI, AFT)

ARINC organizes aviation industry committees and participates in related industry activities that benefit aviation at large by providing technical leadership and guidance. These activities directly support aviation industry goals: promote safety, efficiency, regularity, and cost-effectiveness in aircraft operations. ARINC recognizes ETA International as the fiber optics industry training certification entity in regards to the aerospace industry in the United States. The ARINC certification is based on the SAE International-recognized standards.

#### Data Cabling Installer (DCI) Stand-Alone

#### DCI - \$150.00

ETA data cabling installers are expected to know the basic concepts of copper cabling installation and service—which are then applicable to all the procedures required to safely and competently install communications cabling. Basic electricity and safety; data communications basics; definitions, symbols and abbreviations; cable construction and types; cable performance characteristics; cabling standards; basic network topologies; basic network architectures; National Electric Code (NEC); cabling system components; DCI installation tools; connectors and outlets; cabling system design; cabling installation; connector installation; cabling testing and certification; cabling troubleshooting; documentation.

#### Fiber Optics Designer (FOD)

The ETA 40 hour Fiber Optics Designer training program is an optical designer certification that will provide an in-depth knowledge of optical local area networks. This certification covers all aspects of a successful fiber optic system design from network protocols, network configurations, optical cabling, industry communications standards, determination of fiber count, hardware selection, splicing/termination methods, and cable system testing and documentation. All that is learned in class is put into practice through multiple and intensive case studies. The ETA-certified Fiber Optics Designer program provides detailed instruction and practice of Local Area Network fiber optic design.

#### Fiber Optics Installer (FOI)



A fiber optics installer has a general understanding of optical fiber installation, connectorization, splicing, and testing. He or she is also familiar with optical fiber, connector, and splice performance characteristics described in TIA/EIA-568B, ITU-T G.671, ITU-T G.652 and Telcordia GR-326. A fiber optic installer can perform connector endface evaluation as described in TIA/EIA-455-57B and is proficient in optical loss testing, as described in TIA/EIA-526-14A. He or she also understands the installation requirements described in articles 770 and 250 of the National Electrical Code (NEC). A fiber optic installer is proficient at the installation of con-

nectors on various types of fiber optic cables, using various types of epoxies, and performing mechanical and fusion splicing.

#### Fiber Optics Technician (FOT)

#### \*Prerequisite is the Fiber Optics Installer

A fiber optics technician has a full understanding of inside plant optical fiber, connector, and splice performance characteristics as described in TIA-568C and can use these performance characteristics to create a worst-case power budget for a fiber optic cable plant. An FOT can proficiently perform optical loss testing as described in TIA/EIA-526-14A and perform connector endface evaluation as described in TIA-455-57B. Using an OTDR, an FOT can effectively locate faults in a fiber optic cable, mated connector pair, or splice as well as evaluate optical fiber performance, mated connector pair performance, or splice performance for compliance with TIA-568C.

If you hold a Standalone FOT and later complete the Associate CET (CETa), then you are eligible to upgrade to a Journeyman CET! To apply for the Journeyman CET, you must have two or more years of combined work and electronics training. To upgrade, please fill out the Journeyman CET upgrade form. Journeyman upgrades are \$50.

AFI, AFT Exam Info	
Price:	\$175
Type of Certification:	Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	1 Yr
Hands-On Required:	Yes
Questions on Exam:	75
Passing Score:	75%
Time Allowed to Test:	2 hours

DCI Exam Info	
Price:	\$150
Type of Certification:	Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	Yes
Questions on Exam:	75
Passing Score:	75%
Time Allowed to Test:	2 hours

FOD Exam Info	
Price:	\$150
Type of Certification:	Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	Yes
Questions on Exam:	80
Passing Score:	75%
Time Allowed to Test:	2 hours

FOI Exam Info	
Price:	\$150
Type of Certification:	Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	Yes
Questions on Exam:	75
Passing Score:	75%
Time Allowed to Test:	2 hours

FOT Exam Info	
Price:	\$150
Type of Certification:	Journeyman or Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	Yes
Questions on Exam:	75
Passing Score:	75%
Time Allowed to Test:	2 hours

#### FIBER OPTICS AND DATA CABLING CONT.

#### Fiber Optics Technician—Outside Plant (FOT-OSP)

A fiber optics outside plant technician must be able to properly terminate, test and troubleshoot single mode fiber optic communication systems. This includes various types of termination techniques applicable to high-speed laser-based systems including SONET, DWDM, FTTx, and CATV networks using ITU-T G.652 and G.655 single mode fibers. Disciplines include mechanical and fusion splicing per the TIA-758 standard and the preparation of fiber optic cables and cable management products. Technicians must also know testing and troubleshooting of each element of the fiber optic communication systems along with unique test requirements of SONET, DWDM, FTTx, and CATV networks.

If you hold a Standalone TCM and later complete the Associate CET (CETa), then you are eligible to upgrade to a Journeyman CET! To apply for the Journeyman CET, you must have two or more years of combined work and electronics training. To upgrade, please fill out the Journeyman CET upgrade form. Journeyman upgrades are \$50.

FOT-OSP Exam Info	
Price:	\$150
Type of Certification:	Journeyman or Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	Yes
Questions on Exam:	75
Passing Score:	75%
Time Allowed to Test:	2 hours

#### **SAE Fabricator (SFF)**

For individuals involved in the manufacturing, installation, support, integration and testing of fiber optic systems. It is intended for managers, engineers, technicians, trainers/instructors, third party maintenance organizations, quality assurance and personal production. Both the SAE and ARINC certifications are based on SAE standards.

#### Termination and Testing Technician (TTT)

This certification covers knowledge to properly, terminate, connect, test, and troubleshoot IP-enabled voice/data/video cable and devices to each other. One of the key advantages to using Cat  $5e/6/6_A$  and fiberoptic cables and connectors for electronic security and voice/video/data installations is that these cable connections can be readily built using the proper tools and techniques, which are taught in the required course. This part of the training will emphasize the ETA challenge of being vendor-neutral and applying industry standards for terminations and cable performance. The knowledge gained by the examinees will be applicable to any vendor's products within the scope of the technology studied. One of the primary principles of the network cabling standards is that if a cable is properly terminated and tests satisfactory, then cable can be used to connect any proper device from any manufacturer. There are vendors making thousands of different devices, all of which can be readily connected to a network if the fiber, coax, and/or copper cable to be used is properly terminated and tested.

SFF Exam Info	
Price:	\$175
Type of Certification:	Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	1 Yr
Hands-On Required:	Yes
Questions on Exam:	75
Passing Score:	75%
Time Allowed to Test:	2 hours

TTT Exam Info	
Price:	\$100
Type of Certification:	Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	Yes
Questions on Exam:	75
Passing Score:	75%
Time Allowed to Test:	2 hours

"Obtaining an ETA certification brought a level of certification to the City of Fort Worth that it never had before. It opened new doors to customers that we previously were not able to obtain."

Chris Dusseau, CETsr Communications Technician, IT – Radio Services City of Fort Worth, TX

"I love my job! I started my company more than 30 years ago with a hot soldering iron. The first site I built was on top of 11,162 foot Elk Mountain. My daily commute takes me through the Grand Teton Mountains where I own towers and perform maintenance on them. Radio maintenance in Wyoming requires winter access. If the roads are open we go to work."

Greg Ryan, CETsr Ryan Electronics Inc. Saratoga WY "Culminating an educational program with a world-class ETA certification can boost employee performance and advancement potential. We have requests to provide training with an ETA certification option from companies all over the world. The demand is there for employees with this knowledge and skill set."

Lee Kellett General Manager, Light Brigade Tukwila, WA

"Here I am on my new job at the City of Eugene that only an ETA certification would allow me to acquire. ETA helped transform my skills into an awesome career. Thank you ETA!"

Brian Greig, CETsr Radio Communications Technician City of Eugene, OR

#### INFORMATION TECHNOLOGY

#### Computer Service Technician (CST)



The Computer Service Technician performs hardware servicing and provides systems software skills for personal computers. The knowledge used includes Computer Assembly/Disassembly; Motherboards; Buses; System Resources, Processor Characteristics; Physical and Electronic Memory Characteristics; Secondary Storage Devices; Peripheral Devices; Ports; Power Concepts and Supplies; Basic Networking; Portables; Digital Concepts; Troubleshooting/ Preventive Maintenance; Operating Systems; File Management; Safety, Security and Workplace Practices.

CST Exam Info	
Price:	\$75
Type of Certification:	Journeyman or Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	No
Questions on Exam:	75
Passing Score:	75%
Time Allowed to Test:	2 hours

If you hold a valid CompTIA A+ (ce) certification, then you are eligible for a rollover to an ETA Computer Service Technician certification! To apply, you will need to send a copy of your A+ (ce) certificate to ETA via fax (765) 653-4287 or email, and fill out the rollover form. A+ rollovers are \$75. Lifetime CompTIA A+ certifications are not eligible for rollover.

If you hold a Standalone CST and later complete the Associate CET (CETa), then you are eligible to upgrade to a Journeyman CET! To apply for the Journeyman CET, you must have two or more years of combined work and electronics training. To upgrade, please fill out the Journeyman CET upgrade form. Journeyman upgrades are \$50.

#### **Network Computer Technician (NCT)**

Network Computer Technicians are expected to obtain knowledge of computer electronics basic concepts, Internet and networking technology applicable to various areas of the computer industry. More specifically, NCTs must be able to function, structure, operate, file manage, install, configure/upgrade, manage memory, diagnose and troubleshoot operating systems and hardware (including motherboard and processors and printers).

If you hold a Standalone NCT and later complete the Associate CET (CETa), then you are eligible to upgrade to a Journeyman CET! To apply for the Journeyman CET, you must have two or more years of combined work and electronics training. To upgrade, please fill out the Journeyman CET upgrade form. Journeyman upgrades are \$50.

\$75
Journeyman or Stand-Alone
Yes
4 Yrs
No
75
75%
2 hours

#### Network Systems Technician (NST)

A Network Systems Technician is a network professional who is expected to obtain knowledge of computer network basic concepts, applicable to the various specialty areas of the computer industry. The NST must be familiar with the following: Computer Network Terminology, Network Administration, Wide Area Networks and Devices Used to Extend Networks, Network Architectures, Computer Network Topologies and Classifications, Network Services, Network Operations, Network Standards, Troubleshooting LAN/WAN Test Equipment, Network Server and Workstation Computer System Hardware, Network Operating Systems, and Disaster and Security Planning for Networks.



NST Exam Info	
Price:	\$100
Type of Certification:	Journeyman or Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	No
Questions on Exam:	100
Passing Score:	75%
Time Allowed to Test:	2 hours

#### Wireless Network Technician (WNT)

The Certified Wireless Network Technician is a network professional who is expected to obtain knowledge of the operation and maintenance of wireless networking concepts, RF and IR propagation and modulation technologies, applicable to all the specialty areas of the wireless networking industry. Once the WNT has acquired these skills and knowledge, the technician will be able to enter employment in any part of the networking industry. With minimal training in areas unique to the specific products, the WNT should become a productive member of computer industry workforce.

WNT Exam Info	
Price:	\$75
Type of Certification:	Journeyman or Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	No
Questions on Exam:	50
Passing Score:	75%
Time Allowed to Test:	2 hours

#### OPTICS AND PHOTONICS

#### Photonics Technician Operator (PTO)

Photonics technicians work in jobs where they assemble, measure, test, and repair optical components such as lenses, mirrors, filters, fiber optics, and electro-optic or other photonics devices plus optical sources such as lasers and light-emitting diodes (LEDs). Technicians typically work in applications where photonics is an "enabling technology"—manufacturing/materials processing, Internet/communications, biomedical equipment, and defense/homeland security systems development/integration. Due to the high technical standards and safety issues involved, technicians will receive specialized training in both knowledge and hands-on skill items.



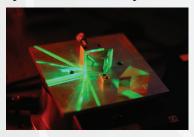
PTO Exam Info	
Price:	\$200
Type of Certification:	Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	Yes
Questions on Exam:	233
Passing Score:	75%
Time Allowed to Test:	2 hours

#### **Photonics Technician Specialist (PTS)**

Photonics technicians work in jobs where they assemble, measure, test, and repair optical components such as lenses, mirrors, filters, fiber optics, and electro-optic or other photonics devices plus optical sources such as lasers and light-emitting diodes (LEDs). Technician specialists work in areas that utilize the skills and knowledge of the operator level, but also an additional higher level of optics, photonics physics, and technology and that require a greater variety of hands-on competencies in laser and optical components and systems. They typically work in applications such as the following: research and development laboratory; product development, test, and production specialists who are team members for original equipment manufacturers (OEMs) of lasers, optics, and photonics components and systems; field service specialists for OEMs or companies that manufacture and/or utilize lasers, optics, and photonics components and systems. They are graduates of AAS degree programs that focus specifically on optics, lasers and photonics.

\$200
Stand-Alone
Yes
4 Yrs
Yes
297
75%
2 hours

#### **Specialist in Precision Optics (SPO)**



Precision optics specialists produce, test, and handle optical (infrared, visible, and ultraviolet) components that are used in lasers and sophisticated electro-optical systems for defense, homeland security, aerospace, biomedical equipment, digital displays, renewable energy production, and nanotechnology. SPOs also integrate precision optical components into these electro-optical systems and maintain them, including handling, storage and transport. SPOs will also have experience in shaping, polishing, and coating precision optics; using optical instruments; understanding procedures and guidelines for verifying optical component dimensions and

tolerances. These technicians have a greater range of hands-on competencies and experience with fabrication and test a wider range of types of optics and optical coatings.

SPO Exam Info	
Price:	\$150
Type of Certification:	Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	Yes
Questions on Exam:	225
Passing Score:	75%
Time Allowed to Test:	2 hours

#### **Technician in Precision Optics (TPO)**

Precision optics technicians work in optical component fabrication technical areas in optical shops, optics manufacturers and in quality control departments (incoming and/or outgoing inspection) for organizations that incorporate precision optics into various systems. They must be able to examine the properties and uses of a variety of bulk materials; have experience in the use of equipment and procedures for shaping, polishing, and coating precision optics; and be able to use optical instruments, procedures and guidelines for verifying optical component dimensions and tolerances. They can also handle, store, and ship precision optical components. Precision optics technicians have the minimum required hands-on competencies and experience with fabrication and tests of fewer types of optics. Due to the high technical standards and safety issues involved, technicians will receive specialized training in both knowledge and hands-on skill items.

TPO Exam Info	
Price:	\$100
Type of Certification:	Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	Yes
Questions on Exam:	98
Passing Score:	75%
Time Allowed to Test:	2 hours













#### RENEWABLE ENERGY

#### Electric Vehicle Technician (EVT)

Electric Vehicle Technicians (EVTs) work on vehicles powered solely by electricity. They perform routine maintenance like other mechanics; however, EVTs must have extensive knowledge of how lithium-ion batteries and automotive systems interact. In addition, they may replace hydraulically assisted systems with electric–powered systems, such as power-steering pumps or air-conditioning compressors, to improve fuel economy.

Certification is for individuals interested in attaining training from an ETA® International-approved EV school. In this program students will develop skills in safety, troubleshooting and repairing of Electric Vehicles. Due to the high voltage (300 VDC and above) and safety issues involved, technicians are required to receive specialized training in both knowledge and hands-on skill items.

EVT Exam Info	
Price:	\$200
Type of Certification:	Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	Yes
Questions on Exam:	100
Passing Score:	75%
Passing Score for Safety Portion:	100%
Time Allowed to Test:	2 hours

#### Photovoltaic Installer — Level 1 (PVI-LVL1)



The Photovoltaic Installer Certification provides assessments in solar system installations. Individuals must have hands-on training from an ETA-approved school and be knowledgeable in topics such as solar resources and principles; selection identification; proper installation sequence, performance characteristics and trouble-shooting methods; permitting best safety practices; and economical impact.

PVI-LVL1 Exam Info	
Price:	\$150
Type of Certification:	Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	Yes
Questions on Exam:	75
Passing Score:	75%
Time Allowed to Test:	2 hours

#### Small Wind Installer — Level 1 (SWI-LVL1)

The ETA International Small Wind Installer Certification provides practical assessments in wind power energy generation under 100 kW. Hands-on training from an ETA-approved school is necessary and individuals should be educated in the following topics including the theory of wind energy and electrical generation; site evaluation; design and selection of wind systems; proper installation, components and troubleshooting methods; safety; finance; and environmental assessment and management.

SWI-LVL1 Exam Info	
Price:	\$150
Type of Certification:	Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	Yes
Questions on Exam:	86
Passing Score:	75%
Time Allowed to Test:	2 hours

#### **ETA'S EDUCATION FORUM**



ETA's Education Forum, a world-class technical education conference, is held annually at various sites in the United States. It is the ideal venue for both professional and curriculum development, regardless of skill level, focusing on hands-on training.

The Education Forum is the focal point for technical and educational professionals to discover emerging technologies, network and collaborate with fellow technicians and educators, have access to training and speaking sessions with industry experts, sit for certification examinations, gain continuing education credits, and discuss classroom implementation strategies.

ETA hosts training workshops and sessions provided by industry leaders such as Light Brigade, Motorola Solutions, Corning Cable Systems, Slayton Solutions, Dover Telecommunication Services, Ira Weisenfeld & Associates, Bird Technologies and more. In addition, ETA conducts an Annual Membership Meeting and Awards Banquet at the Education Forum.

ETA is co-locating with the International Wireless Communications Expo (IWCE) . Since 1977, the International Wireless Communications Expo (IWCE) has been the authoritative annual event for communications technology professionals in the working world. IWCE features over 370 exhibitors showcasing the latest products and trends in the industry. Over 7,000 individuals attend from a diverse group of industry professionals including government/military; public safety (law enforcement, fire service, emergency medical & 911); utility; transportation and business enterprise. This year's show will be held March 21-25, 2016 at the Las Vegas Convention Center in Las Vegas, NV.

Visit the website for the current schedule at www.educationforum.info.

#### **SMART HOME**

#### **Certified Alarm Security Technician (CAST)**

Alarm-Security technicians must be able to identify and describe the operations of alarms and have basic understanding of technology and its configuration, fiber optics – telecommunications, software, and computers and locks. The CAST will be able to explain, understand, and use block diagrams and schematics, digital concepts, software, hand tools—soldering, data communications, and cameras and intercoms.

If you hold a Standalone CAST and later complete the Associate CET (CETa), then you are eligible to upgrade to a Journeyman CET! To apply for the Journeyman CET, you must have two or more years of combined work and electronics training. To upgrade, please fill out the Journeyman CET upgrade form. Journeyman upgrades are \$50.

#### **Electronic Security Networking Technician (ESNT)**

The ESNT was developed for technicians who have gained knowledge and skills needed to properly cable, connect, install, program, and troubleshoot IP-enabled security devices onto local area networks and the Internet. This certification is an acknowledgement of the examinee's familiarization and understanding of the hardware and theory of operation of this medium. It is a stand-alone certification that can also be used as a Journeyman option.

If you hold a Standalone ESNT and later complete the Associate CET (CETa), then you are eligible to upgrade to a Journeyman CET! To apply for the Journeyman CET, you must have two or more years of combined work and electronics training. To upgrade, please fill out the Journeyman CET upgrade form. Journeyman upgrades are \$50.

Price:	\$75
Type of Certification:	Journeyman or Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	No
Questions on Exam:	75
Passing Score:	75%
Time Allowed to Test:	2 hours

CAST Exam Info

ESNT Exam Info	
Price:	\$100
Type of Certification:	Journeyman or Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	No
Questions on Exam:	80
Passing Score:	75%
Time Allowed to Test:	2 hours

RESI Exam Info	
Price:	\$75 each
Type of Certification:	Stand-Alone
Renewal/Maintenance Required:	No
Certification Term:	4 Yrs
Hands-On Required:	No
Questions on Exam:	75-80
Passing Score:	75%
Time Allowed to Test:	2 hours

#### Residential Electronics Systems Integrator (RESI)



\*Certified Satellite Installer exam FREE if taken with one or more endorsement at the same time

Residential Electronics Systems Integrator is a professional certification for those who design and oversee the installation and integration of electronics systems in residences and light commercial buildings. The objective of the Integrator is to produce a residential or light commercial electronics systems package that will allow all data, control, and communication signals to be integrated at the premise controller and converged into one secure cohesive communication stream, to either be used within the premise or to

be passed back and forth through the gateway. The Integrator should be proficient in the many protocols used over diverse media to communicate with and control residential and light commercial electronics systems.

#### **Available RESI Endorsements:**

- Audio-Video
- Computer Networking
- Switch Closed Circuit TV
- Security-Surveillance
- Environmental Control

#### Master Residential Electronics Systems Integrator (RESIma)

The MASTER RESI will be proficient in all of the core RESI skills and knowledge and in planning and designing electronics and communications equipment systems and layout for new and existing construction. The MASTER RESI is capable of designing the entire system and network for audio, video, data and control of security and environment to function in one IP bit stream converged at the home controller. He/she is also capable of troubleshooting and debugging the system and planning installation or modifications. The MASTER RESI has extensive knowledge of the operation and technology and is proficient in each of the basic five subcategories of residential electronics.

The MASTER RESI certification prerequisites include successfully completing the core RESI certification requirements plus holding each of the five RESI endorsements-Audio Video, Closed Circuit TV, Computer Networking, Environmental Control, and Security-Surveillance.

RESIma Exam Info	
Price:	\$75
Type of Certification:	N/A
Renewal/Maintenance Required:	No
Certification Term:	N/A
Hands-On Required:	No
Questions on Exam:	75
Passing Score:	75%
Time Allowed to Test:	2 hours

#### ADDITIONAL CERTIFICATIONS

#### Avionics (AVN)

The avionics specialty is designed to assess the knowledge and skills of individuals who install, maintain and adjust electronics equipment, cabling and the accessories used in aviation communications and control equipment. An FCC GROL is also highly recommended for this work. Several of the topics covered in this examination include: Avionics Systems, Cabling, Computers and Digital Concepts, Amplifiers, Interfacing, Antennas and Transmission Lines Components, Mathematics, Network Topologies and Infrastructures, People Relations, Optical Cabling, Safety, Test Equipment and Tools and Satellite Communications.

AVN Exam Info	
Price:	\$75
Type of Certification:	Journeyman or Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	No
Questions on Exam:	75
Passing Score:	75%
Time Allowed to Test:	2 hours

#### Certified Service Manager (CSM)

This is a valuable examination for those who serve as managers, owners or department heads of service businesses such as electronics, computer, communications and appliance repair facilities. Several of the topics covered in this examination include: Manager Responsibilities and Objectives, Personnel Profiles and Job Descriptions, Team Building, Training, Hiring and Employment Laws, Employee Compensation Systems, Customer Relations Policies and Skills, Service Policies, Service/Production Area Development, Test Equipment Needs and Procurement, Financial and Parts Department Management, Warranties and Risk of Liability, Contract Negotiation, Vehicle Procurement and Maintenance, Association Memberships/Involvement, Quality Systems, Security, Safety/OSHA, and Project Management.



CSM Exam Info	
Price:	\$150
Type of Certification:	Stand-Alone
Renewal/Maintenance Required:	No
Certification Term:	Lifetime
Hands-On Required:	No
Questions on Exam:	100
Passing Score:	75%
Time Allowed to Test:	2 hours

#### Commercial Audio Technician (CAT)



The Commercial Audio Technician (CAT) is a certification for sound system technicians who need to design, install and troubleshoot speech and music sound systems in commercial and institutional environments. Commercial Audio Technicians must be knowledgeable in Acoustics, Microphones, Speakers, Sound & Measurements, Wiring, 70-Volt Systems, Troubleshooting, Safety, and Codes and Standards.

CAT Exam Info	
Price:	\$75
Type of Certification:	Journeyman
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	No
Questions on Exam:	100
Passing Score:	75%
Time Allowed to Test:	2 hours

#### **Customer Service Specialist (CSS)**

The Customer Service Specialist (CSS) is a certification that validates one's work readiness skills through employability concepts. Though developed to meet the role of an evolving service oriented electronics technician, CSS is relevant to every industry, employer and employee. Topics included are Safety, Ethics, Respect, Teamwork, Communication, Telephone and E-mail Techniques, Social Media, Problem Solving, Interpersonal Relationships, and Sales and Marketing.



CSS Exam Info	
Price:	\$75
Type of Certification:	Stand-Alone
Renewal/Maintenance Required:	No
Certification Term:	Lifetime
Hands-On Required:	No
Questions on Exam:	100
Passing Score:	75%
Time Allowed to Test:	2 hours

#### Gaming and Vending Technician (GVT)



The Gaming and Vending Technician (GVT) certification is intended for entry-level technicians with a sound background in electronics. Technicians will work in the field to troubleshoot, repair and calibrate gaming and vending type equipment. Money handling, basic electrical, circuitry, computer hardware and software, and safety are topics included in this certification. The GVT is a stand-alone certification and must be maintained every four years.

<b>GVT Exam Info</b>	
Price:	\$100
Type of Certification:	Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	No
Questions on Exam:	75
Passing Score:	75%
Time Allowed to Test:	2 hours

#### **ADDITIONAL CERTIFICATIONS CONT.**

#### Industrial (IND)

Industrial journeyman-level electronics technicians are expected to obtain knowledge of industrial electronics basic concepts, which are then applicable to all the various specialty areas of industry. Industrial Electronics Technicians must be knowledgeable and have abilities in the following technical areas: Amplifiers, Optical Wiring, Block Diagrams-Schematics, Robotics, Hydraulics, Power Supplies, Test Equipment-Tools, Mathematics, Computers-Digital Concepts, Safety, Satellite-Wireless-Data, Communications, Cabling, Troubleshooting, Motors, Programmable Logic Controllers, and Software.

IND Exam Info	
Price:	\$75
Type of Certification:	Journeyman
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	No
Questions on Exam:	75
Passing Score:	75%
Time Allowed to Test:	2 hours

#### Radio Frequency Identification Technical Specialist (RFID)

This certification is intended for an electronics technician with an understanding of RFID. The technician should have a basic understanding of the hardware and theory of operation of radio communications as it applies to RFID radio transceiver technology. RFID is a stand-alone but can be used as a Journeyman option when the Associate exam is also taken and passed.

If you hold a Standalone RFID and later complete the Associate CET (CETa), then you are eligible to upgrade to a Journeyman CET! To apply for the Journeyman CET, you must have two or more years of combined work and electronics training. To upgrade, please fill out the Journeyman CET upgrade form. Journeyman upgrades are \$50.

RFID Exam Info	
Price:	\$100
Type of Certification:	Journeyman or Stand-Alone
Renewal/Maintenance Required:	Yes
Certification Term:	4 Yrs
Hands-On Required:	No
Questions on Exam:	75
Passing Score:	75%
Time Allowed to Test:	2 hours

#### FCC COMMERCIAL RADIO OPERATOR LICENSES



#### Commercial Radio Operator Licenses

FCC Licenses are required by law to operate and maintain many types of communications equipment. The broadcast, aeronautics, and maritime industries are the primary employers of commercial license holders, although many other fields now require FCC licenses. ETA has proudly served as an FCC COLEM (Commercial Operator License Examination Manager) since 1993. You can read more about the FCC and its programs at www.fcc.gov

#### Marine Radio Operator Permit (MP) —Element 1

MPs, or MROPs, are required to operate radiotelephone stations aboard certain vessels that sail the Great Lakes. They are also required to operate radiotelephone stations aboard vessels of more than 300 gross tons and vessels which carry more than six passengers for hire in the open sea or any tidewater area of the United States. They are also required to operate certain aviation radiotelephone stations and certain coast radiotelephone stations.

FCC Exam Info	
One element	\$50
Any two elements taken together	\$50
Any three elements taken together	\$70
Additional elements taken at same sitting	\$20
License renewals	\$80

#### General Radiotelephone Operator License (PG) – Elements 1 & 3

A PG, or GROL, is required to adjust, maintain, or internally repair FCC licensed radiotelephone transmitters in the aviation, maritime, and international fixed public radio services. It conveys all of the operating authority of the MP.

#### Global Maritime Distress and Safety System Operator (DO) - Elements 1 & 7

The DO, or GMDSS Operator, qualifies the holder to operate, and make some basic equipment adjustments to, Global Maritime Distress and Safety System (GMDSS) radio installations. It also confers the operating authority of the MP.

#### Global Maritime Distress and Safety System Operator - Restricted (RG) - Elements 1 & 7

The RG, or GMDSS Restricted, qualifies the holder to operate, and make some basic equipment adjustments to, Global Maritime Distress and Safety System (GMDSS) radio installations, but only on voyages that remain within twenty (20) nautical miles of shore. It also confers the operating authority of the MP.

#### Global Maritime Distress and Safety System Maintainer (DM) - Elements 1, 3, & 9

The DM, or GMDSS Maintainer, qualifies personnel as GMDSS radio maintainers to perform at sea repair and maintenance of GMDSS equipment. It also confers the operating authority of the PG and MP. NOTE: In instances where an applicant qualifies for both a DO and a DM, the applicant qualifies to hold a GMDSS Radio Operator/Maintainer License (DB).

#### Radiotelegraph Operator (T)

The T authorizes the holder to operate, repair, and maintain ship stations, and to repair and maintain coast radiotelegraph stations in the maritime services. It also confers all of the operating authority of a T2.

#### Ship Radar Endorsement - Element 8

Only persons whose commercial radio operator license bears this endorsement may repair, maintain, or internally adjust ship radar equipment.

### ETA MEMBERSHIP

Association membership is voluntary-a fundamental premise of ETA's member eligibility requirements that sets us apart from most certification associations. If you plan to or are currently working in any technical or related business area, then you are eligible to join ETA. Students, instructors, technicians, trainers, distributors, company owners, military personnel, and certified technicians all hold membership in ETA. Now you can too! Members receive benefits such as the *High Tech News* (ETA's bi-monthly publication), communication with peers through regular members-only technical access message boards and forums, as well as discounts on various industry publications, conferences, and events. ETA International offers six types of membership: individual, student, institutional, master, retiree, and lifetime. All memberships are good for one year with the exception of the lifetime and two-year individual options. Each will receive a wallet card and wall certificate. You can view more information at www.eta-i.org/membership.html.

#### Individual:

#### Price: \$40.00 USA / \$55.00 International per year

Members of ETA receive a subscription to the *High Tech News (HTN)*, ETA's bi-monthly publication and discounts on ETA study materials, merchandise, and the Career Resource Center, in addition to access to the "Members-Only" site that includes free practice exams, HTN archives, and many other exculsive materials. ETA also offers a two year individual membership (USA only) for \$75.00.

#### Student:

#### Price: \$20.00 USA / \$35.00 International per year

#### \* Student ID or current course schedule is required.

Student memberships apply to those who are enrolled at state and commercial electronics training institutes or in correspondence and military courses. Students also receive the same benefits as those who are individual members of ETA in addition to assistance in developing a successful career. ETA offers professionals help in improving their resumes and other materials needed by employers.

#### Institutional (Includes 4 Individual Memberships):

#### Price: \$250.00 USA / \$350 International per year

Hardware manufacturers, public and private educational institutions, service providers, and affiliated groups can have a voice as an institutional member with ETA. Institutional memberships enjoy the same benefits as individual memberships.

#### **Master CET:**

#### Price: \$25.00 USA / \$45.00 International per year

You've earned distinction within the industry by becoming a Master Certified Electronics Technician (CETma). ETA can help you connect with other professionals from around the world to discuss issues, share experiences, and learn from one another. In addition, your membership gives you access to our members-only technical publications, seminars, workshops, newsletters and special services, in the same way as the individual membership.

#### Retiree:

#### Price: \$10.00 USA / \$30.00 International per year

If you have retired, and would like to stay involved in your industry, then an ETA retiree membership might be right for you. These memberships offer the same benefits of an individual membership, but at a reduced cost.

#### Lifetime:

#### Price: \$500 USA / \$1,000 International

If you would like a lifetime membership with no annual renewals at a great discount, then this is the option for you! Included are all of the perks of the individual membership plus the satisfaction of knowing you are supporting your industry with a lifetime commitment to ETA.

<u>BENEFITS</u>	Member Benefit	Non-Member
<i>High Tech News</i> , ETA's bi-monthly magazine, full of industry news, certification information and technical tips	FREE	\$20.00
Online Practice Exams	FREE	Members Only
Career Resource Center	FREE Resumé and Job Postings	<b>FREE</b> Resume and Job Postings
Study Materials	Discounts on selected texts	Members Only
Discounted rates for ETA's annual convention	Discount on registration fees	Members Only
Innovation & Tech Today magazine	FREE (contact ETA for details)	Members Only

In 2015 alone, technicians at the following companies chose to become certified through ETA International. This list does not include the thousands of students in electronics-related industries who also became ETA-certified in 2015.

20 Mile Coal 2TZ Inc 2-Way Communications Service 3E Electrical Engineering A1-Cabling AAA Communications LLC Aaron Home Services Abacus Communications Ltd Abacus Technologies Access Montana AcenTek

Activ Technology Pte Ltd AD Comm Engineering Ada Country Highway Adecco Engineering & Technical ADI

ADI Global ADM Technologies Inc

Admon Rehab Vocational ADTRAN Advance Security

Advanced Comm & Elec Inc Advanced Electrical Technologies Advanced Electronics/Redondo Beach

Advanced Microwave Install Advantage Communications Advantage Relocators Adventist LaGrange Memorial Hospital

**AECOM** 

Aero Communications

Afghanistan Reliable Technology Services AFL Telecomunicaaciones de Mexico

Agralite Electric Air Comm Corp

Air Test and Evaluation Squadron (VX) 1

Airwave Telecommunications

Alarmex Inc Alaska Clean Seas

Alaska Fire Service, Department of Interior (BLM)

Alaska Job Corps Center

Alaska Joint Electrical Apprenticeship & Training Trust

All Points Wireless All Systems All Wired Up LLC

All-Comm Technologies Inc Allcomm Wireless Inc Allied Fire & Security Allison Transmission

Allsystems

Alpha Media Pte Ltd

Alta Group of Companies Alta Link

Ambher Ingenieria Ameren

American Alarm Inc American Security Systems American Southwest Electric

American Wireless Amidonian

AMSEC - Huntington Ingalls Anchorage School District **Anderson Communications** Anderson Municipal Light & Power Anoka County Highway Department

Anytime Electric LLC APL Access & Security Appalachian Power Company

Applied Professional Training College LLC

Architect of Capitol Argyle Security

Ariel Technologies Botswana Aroostook Technologies

ASI Career Institute

AT&T Mobility AT&T U-verse Aten Pte Ltd

Athena Solar Power LLC Atlanta Communications Atlantic Methanol Production Co

Atlantic Tele Member Atlas Alarm Corp **ATMC Atwood Oceanics** 

Augusta Communications Austin Community College Austin Energy

AVED Electronics Avian LLC **AVS Technologies** Axiom Memory **B & C Communications** B & L Communications Inc

**BAE Systems** Bahamas Oil Refining Baja Broadband Baker Hughes Inc Balfour Education Center

**Ball State University** Baltimore & Electric Banc Home Loans

Barbeck Communication Group Inc Barrick Goldstrike Mines Inc

Basco Security

Basin Electric Power Cooperative

**Bates Security** 

Baycare Health System/St Joseph's Hospital

Baycom BC Hydro BC Johnson Co BCE Nerxia

Bear Communications & Electronics

Bearcom Belize Telemedia Ltd

Bell Aliant Bellevue Healthcare

Bellsouth Telecommunications Bender Communications Inc.

Bennett Telecom Berg Spiral Pipe Corp Berkshire Hathaway Bermuda Cable Vision

Best Buy Big Wireless Bigelow Electric

Blackstone Valley Regional Vocational Technical HS

Bledsoe Telephone Bluebird Network Blumerich Comm Svc Inc BNL Engineering PTE LTO **BNSF Railways** Bobcat Specialties

Booz Allen Hamilton Bowling Green Municipal Utilitites **BR** Communications Inc

Brick Utilities Brico Technologies Bridger Coal Co Brighthouse Networks British Columbia Rapid Trans Brown's Communication Inc

BSIT

**BTC Electronic Components** 

BTI LLC

**Burlington Communications** 

Burt Networks P & E LTD **Burton Telecom** 

**Business Office Systems** C Faulkner Engineering Cable Network Construction

CalAtlantic

Calfornia Correctional Institution Calhoun County 911

Calhoun Farmers Coop Caliber Solutions

California Department of Transportation California Office of Emergency Services

California Science Ctr CALPIA Coffee **CALPIA Fabrics** 

CALPIA Optical Laboratory

Cam-Dex Security Camosun College Canadian National Railway Canadian Pacific Railway Canon

Canyon State Wireless Canyons School District Capitol Communications Capture Technologies

Carbon Career & Technical Institute Caribbean Aviation Training Institute Carlisle Interconnect Technologies

Carolina Communications Carr Business Systems Carthage Water & Electric

Casper College Caterpillar CBRE Inc

CCWF (IDL/IWL) Construction Site

CDE Lightband **CE Dynamics** Cebula Corp Cebula Electronics Cedar Hill Research Cemex USA

Center Point High School Central Bank of Trinidad & Tobago Central Coast Adult School

Central Coast Water Authority

Central Communications & Electronics Inc.

Central Electrical Systems Central Illinois Public Service Centre Communications Inc/Bellefonte

Centre Du Telephone Mobile Ltee/Anjou (CTM Mobile)

Century 22 Homes Century Link Qwest Communications

CenturyLink **CFSI** 

Chain Electric Charter Communications

CHELCO Chemicrete Enterprises PTE LTD

Cheyenne River Telephone Company

CHH Construction System Chrouch Communications/Remus

Chugach Federal Solutions

Chugach McKinlev Ciona Technologies LLC Citizens Cablevision Citizens Telephone City & County of Honolulu

City of Atlanta City of Bryan City of Burbank

City of Charlotte Department of Transportation

Consolidated Telecom

Contra Costa County Fire

Control Automation Tech

Convergys Copper Valley Telephone

Creative Communications

Crosstown Electrical & Data

**CRST Telephone Authority** 

Cyber Communications

D & A Security System

Custom Utilicom

Crystallite Electrical & Plumbing Contractor CTS Consolidated Telecom Services, LLC

D & D Communications Inc dba First Wireless

Cosner Comtech Inc

County of Powhatan

Coresite LLC

CRCE Corp

Crest

Control Communications Inc

City of Corpus Christi City of Denton City of Emmett City of Eugene City of Fort Smith Water Department City of Fort Worth City of Franklin City of Gastonia NC City of Geneseo City of Grandview City of Grapevine TX City of Houston IT Department City of Hudson City of Jacksonville City of Kelowna City of Laurinburg City of Lompoc City of Long Beach City of Los Angeles City of Lumberton City of Marietta City of McAllen City of Memphis City of Nelson City of Newport News City of Riverside City of San Francisco Public Works City of Seattle City of Sparks Fire Department City of Suffolk Clark Wireless Inc. Clarksville Department of Electricity CLC-Global Pte Ltd Clear Communications & Electronics/Charlottesville ClearCom Inc CMS Mechanical Coast Mountain Wireless Communications CoastCom Inc Cobb EMC Cochran Inc College of Western Idaho Colorado Department of Transportation Columbia County Broadband Columbus City Schools Columbus Communications Inc Com 1 Communications Com Net Inc Comcast Comm Serv Co of Daytona Inc Radio One/Orlando Comm Tech Commenco Inc Commercial Tower North Inc Commonwealth Radio Service Inc/Blairs Commonwealth Utilities Corporation CommScape Inc Comm-Tronics of Virginia/Prince George Communication Plus Inc Communication Service Inc

Communication Services of WNY & PA DBA Eagle Radio

Communication Technology LLC

Communications Electronics

Communications Specs Communications Technologies Inc

Communications USA Inc.

Computer Depot Inc

Comsource of Michigan

**Comtex Communications** 

**Comtronics Corporation** 

Con-Serv Industries Inc

Connectivity Solutions

Comporium Communication

Communications Cabling & Networking Communications Center of Rockford

Communications Service Inc/Portage

Communications Technology, LLC

Communications Specialist Inc/Columbia

Comproducts Inc dba B&C Communication

Communications Service - DR Spaulding Inc

Communications Service Co dba Radio One

D & E Electronics D & R Communications **Dakota Communications** Dale C Rossman Inc Day Management Corp dba Day Wireless Systems DayStarr Communications DC Water DDL OMNI Engineering Defense Log Agency Delmarva Communications Inc. Delphinus Eng Delta Construction Delta Flectric LLC Delta Wireless Denali National Park Densco Electrical Engineering Pte Ltd Department of Defense Department of Homeland Security Department of Justice Department of Transportation Anchorage International Airport **DFA Security** DFW Communications DHS/CBP/OIT Diamond H Services Dick's Sporting Goods Digital Traffic Systems Inc Digitcom Electronics/La Junta Directorate of Planning, Training, Mobilization, and Security DirecTV Dirigo Wireless DISA PAC Diversified Electronics Inc Diversified Fire Protection Dixie Power DMA Landscape **DMR Consulting Inc** Douglas County Sheriff's Office Douthits Radio Service Inc Down Under Construction Drew Wireless, LLC DSI / NASA DTS Reprographics Inc Duluth/Superior Communications Inc **Duval County Public Schools** EA Electric Inc **Eagle Aviation Resources Eagle Communications** Eagle Radio Technologies East Georgia State College East Kentucky Power Coop Eastern Municipal Water Division Easton Utilities Commission Echodyne ECO Electrica **ECPI University** EDV Beratung Petri Edward Rose & Sons

El Nuevo Dia **Elect General Contracting Electric Conduit Construction Electrical Corporation of America Electrical Solutions Corp** Electronic Applications Company Inc Electronic Comm **Electronic Engineering Company** Electronic Maintenance & Comm Inc Electronic Service Solutions Inc Elibe Solution PL Elite Eltek Inc Emergency Radio Service Inc Energia Costa Azul **Energy Northwest Engineered Protection Systems** Engineering Solutions and Products LLC Englewood Hospital and Medical Center Enlink Midstream **ENMR Plateau Telephone** Ensco PLC Entergy Enterprise Communications **Enterprise Security Systems EPS Security** Eqcoms Technology PTE LTD ERC Inc Ericsson Ericsson AB ES Net **ESCO Communications Essential Network Technologies ETA International Etowah County Tech Center** Evarardo Casraneda Exelis and Raytheon Exelis Inc Expert-Conseil Telecom F&B Communications Faith Technologies Inc FCI Ray Brook Federal Network System Fiber Business Solutions Group Fiber Network Training Fiber Optic Cable Shop Fibernet Inc FiberOpto Asia Pte Ltd Fidelity Communications Filer Mutual Telephone Co Firetrol Protection Systems First Communications First Solar Inc First Wirecross Inc Five Stone Flathead Electric Co-op Fleet Readiness Center SW Flock Enterprises Flower City Communications LLC FMi Logistics Folsom State Prison PIA Fort Pierce Utility Authority FortisBC Freelance Inc Freeman Fremont County Sheriff Ft Pierce Utilities Authority G4S Parsons Pacific LLC Gadsden City HS Gage Telephone Systems Inc Gainesville Regional Utilities Gardonville Telephone
Gately Communications Co GC&E Systems Group GCI Industrial Telecom Gem State Communications **GENCON** 

Gencon Limited

General Cable **General Communication** General Dynamics General Dynamics Information Technology Georgia Institute of Technology Georgia Tech Research Institute Giant Eagle Gigatech Products Inc Gila Electronics of Yuma Inc Gillespie Prudhon & Assoc Ginlect Electrical Engineering
Girl Scouts of Ohio's Heartland Glentel Inc Global Technical Systems Inc Global Technology Resources inc

Global Telecom Globelite EngineeringPte Ltd **GM** Engineering

**GMHR Field Services GNS Electric Inc** Golden Hills Adult School Golden State Utility Co

Golden West Telecommunications Goodyear

Google Australia Google Belgium Google Chile Google Fiber Google Inc Google Ireland Ltd Google Singapore Google Taiwan Google Tuike Finland Oy

Goosetown Communications Government Contracting Services

Grand View Lodge Granite Electronics Great America

Great Plains Communications Green Vision Technology Pte Ltd

Groupe CLR GTI Systems Inc Guam Power Authority
Guggenheim Partners Guilford County School System Gulfstream Aerospace Co Gwaii Communications **H&W Communications Pte Ltd** Hallettsville Communications Halliburton

Hammeke Electric Hankey's Radio Inc Hanover High School Harris Inc Harris-McKay Insurance

Hartline Supply

Harvey Point Defense Testing Hasty's Comm of Florida Inc-Jacksonville

Hawthorne Pacific **HDR** Engineering Heart Trust

Heartland Community College HEC Electrical & Construction Pte Ltd

Helping Hands Center Hew Communications P/L

High Tech Regional Training Site **High Techtronics** 

High Tide Solutions CCC Highland Wireless Services **HLW Electric** 

HMA Consulting Holmes Electric Home Depot Honeywell

Hoong Kong Electric Co Pte Ltd

Horizon Telecom Horry Telephone Co-op Hospital Santa Barbara Hot Springs Telephone Co Hot Wire Comm LLC Houle Electric

**Hubbard Cooperative Telephone** Huntsville-Madison Co 9-1-1 System

Hurco Co Hy-Z Wireless Inc ICTC

INSI IBEW 230 IBEW Local 1547 Ibex Global ICI Wireless Iftac AB

IL Coop Assoc. (Clear Talk Comm) DBA Buchanan Illinois Emergency Management Agency

Illinois Rural Electric Coop

Illinois State Toll Hwy Authority

Independiete

Indian Hills Community College Industrial Communications Inc

Infiniti Networkz

**INFOP** 

Information Transport Service Infrastructure Consulting & Engineering

Innovative Communication Innovative Companies Innovative Tele Integra Staffing Integrated Comm Inc Integrated LLC

Integrated Public Safety Commission

Integrated Wireless Technologies

**Integrity Networks** 

Intermountain Communications

International Longshore and Warehouse Union

International Wireless Com

**IPS** 

Ira Wiesenfeld and Associates

ISA Engineering
ITT Technical Institute ITT/FSIC

J & R Electronics J and D Farms J Ranck Electric Inc

Jackson Communications Inc

Jacobs Technology Jaf Communications Jamaica Defense Force Japan Navy Jardine Engineering

Jaruik Heart Inc Jaslin Construction

Jerry Gutierrez Cable TV Installs LLC

Jet Blue Jewelry Television Jit Heng Engineering JKL Associates LLC Jlee Design Company

Joe Banas Mobile Communications

Joe Noda

Johnson Controls Inc GWS at BMH Union City Johnson Electronics

Jones NCTI JP Xtreme

JT Communications Inc.

JT3 JTI Electric

Jubilado K & C Communications Kakira Sugar Ltd

Kalmar USA Inc

Kansas Turnpike Authority Kay Electronics Inc

Kelcom

Keller Williams First Coast

Keltron Corporation Kenilworth Electronics Co

Key Comm DBA Southwestern Wireless-Roswell

KG Moats KITCO Fiber Optics

**KLC Communications** KM Telecom Kmart **KMB** Engineering Kratos KST Security K-Telcom Limited

Kubl Group L & K Communications L-3 Chesapeake Sciences L-3 Communications

LA County Metropolitan Transportation Authority

Lakeland Christian School Lane Council of Government

Laurel Highlands Education Department

Lauttamus Communication

Lawson Electric

Lawson State Community College

Ledcore

Lenoir City Utilities Board Leviton Manufacturing CO Lexington City Schools Liberty Electronics Life Cycle Engineering Light Brigade

Lightspeed Networks Lincoln County School District

Lincoln Electric System

Lin-Date

Linear Solutions Inc

Linebarger Goggan Blair & Sampson LLP

Link America

Litech Lighting Mgmt Scv Inc

Lockheed Martin Co Logicube Inc

Lord Electric Company Los Alamos National Lab

Los Angeles Unified School District

Loudon County VA

Louisiana Radio Communications/Lake Charles

Lower Colorado River Authority Lowes Home Improvement Lucky Joint Construction Pte Ltd Luviano Computers

M & W Communications Macgyver Engineering Pte Ltd Madyson Electric

Maers Drilling Magnum Electronics Maldives Airports Co Ltd Manatee County FL ManTech International Group

Marathon Equatorial Guinea Production Ltd Marathon Oil Co

Marine Spill Response Corporation Marut Electric Service Corp

MasTec

Matanuska Telephone Association Matteson Communications LLC Mayday Communications Inc McCarran International Airport

McIntosh Communications M-Communications

MCT-1

MDT Technical Services Melrose Mac Messiah College

Metro Communications LLC Metrocom NYC Inc Metroplex Control Systems Metropolitan Communications Inc Metropolitan Water District

Micron Technology

MICT Calicut

Mid Atlantic Regional Maintenance Center Mid State Communications & Electronics Inc

Midcontinent Communications

Midstate Mobile Radio

Midwest Energy Midwest Mobile Radio Service Millennium Communications

Miner Electronics Corp/Munster

Minford Telephone Co

Mining Electrical Services Mitz Power PTE LTD

MJM Electric LLC

Mobia Technology Innovations

MobilComm Inc

Mobile Comm of Dekalb Inc

Mobile Comm of Gwinnett

Mobile Communication of America

Mobile Communication Services Inc

**Mobile Communications** 

Mobile Communications of Forsyth Inc

Mobile Communications of Hall LLC

Mobile Radio Engineers LLC

Momentum 98 Monroe LLC

Montana Dakota Utilities

Montana Sky Networks

Montana State University

Montana West LLC Motorola Solutions Inc

MTC Technologies

Muhammad Sulaman

Multiband

MultiCable Inc

Multi-Media Communications

My House Guy

Nabors/Ryan

Nagasima Electronic Engineering Pte Ltd

Nam Hai Electrical Co

NASA/Vencore

Nashville Communications

Nath's Communication

National Broadband Services

National Networks

National Park Service

National Security Technology

NATO Communications and Information Agency

Navajo Tribal Utility Authority

NBC Universal

Neptuno Networks

New Hope Telephone Coop

New Horizon Adult School

New Mexico Department of Transportation

New York Communications Co Inc. New York Police Department

Newmont Mining Corp

**NexGen Communications** 

Next Generation Provider Pte Ltd

Nisqually Red Wind Casino

Noble Drilling Services

**Noel Communications** Norflex Inc

North American Cable

North American Mobile Systems

North Carolina Department of Corrections

North East Towers

North Shore WIB

North Slope Borough

North Slope Telecom Inc

Northeast Alabama Community College

**Northeast Communications** 

Northeast Towers Inc Northeastern Communications Inc

Northern Arizona University

Northern Nash High School

Northern Telecommunications **Northland Controls** 

Northrop Grumman

Northway Communications

Northwest Communications

Nova Communications **Novus Entertainment** 

Npower

Nushagak Tel Coop Inc

NV G.E.B.E

NYCOM CO

Oak Ridge National Laboratory

Ocean Breeze Waterpark

Ocean Rig Management
Office of Sustainability - Mayor's Office New York City Oglala Sioux Tribe OSRWSS Water Treatment Plant

Ohio Department of Rehabilitation and Correction

Ohio Edison

Ohio State University

Omnitec Solutions Inc

**OmniTel Communications** 

Onward Beach Resort

Opelika Power Services

Orange County Government

Orcas Electric Orcas Power & Light Coop

Orion Instruments

Orizon Mobile

Osborne Electric

Ossipee Mountain Electronics Inc

OTZ Telephone Inc

Outpace Service Manager

Owen Electric Cooperative

Owens Communications Inc/Jeffersonville

Ozarks Technical Community College

P & R Communications

Pablo Chaparro

Pacific Bell Tele Co

Pacific Data Systems

Pacific Gas & Electric

Pacific Wireless Communications

Palmetto Rural Telephone Co

Pan Handle Telephone Cooperative Inc

Panarama

Paradoxe Corp **Pathways** 

PCN Professionals Inc

**PCRG** 

**PDI Communications** 

Peel Regional Police

Penelli Professional Services

Peoples Natural Gas

Pepe Abad Toyota

Pepsi Bottling Ventures

Performance Audio Performance Monitoring Team

Petro Communications

Petrotrin

Phoenix International

PIA Dental

PIA Optical Laboratory PIA Shoe Factory

Pierce County Radio

Pierce Transit

Pike Electric Pine Ridge Specialty Services

Pinellas County

Pinnacle Consulting Enterprise Pinnacle Telecom Group, LLC (PTG)

**Pioneer Communications** 

Pioneer Power Solution

Pittsfield Communications Systems Inc

Plateau Telecom

Platte Valley Communications Of Hastings Inc

Pleasant Valley Adult School PNH Resources Pte Ltd

Polar Communication

Polaris Inc

Polleotek Communications Portage County Water Reso Portage Electric Products Inc

Portside Towing Ltd

Power Construction

**Power Services Contractor** 

Power System Engineering Inc

Powhatan County

Prairie Electric

Prairie Farms

Pravco Contrecion

**Precision Contracting Services** 

Precision Utility

PREPA Networks

**Prewire Specialists** 

PRIDE Enterprise

Prince Technologies Pro Telecom Solutions

ProComm Alaska LLC Protection 1

**Protel Contracting** 

Proteus Services LLC

Public Works Department Purdue University

QC Islands Net Ltd.

Qualcomm Inc Quality Assured Control Inc

R&G Telecomm Group RACOM/ Des Moines

Radio Communications of Charleston Inc. Radio Communications of Virginia

Radio Communications Svc Inc

Radio Maintenance Inc

Radio One Communications Service Co Radio Solutions

Radiophone Engineering Inc/Springfield Radios Unlimited dba Onelink Wireless

Rainbow Broadband Inc

Randolph Community College Rasco Engineers

Ray's Electric

Raytheon

Red Robin

Redrock Security & Cabling Regional Communications

Regional Medical Center - Anniston

Releaf Kraton

Republic Bank Limited

Reservation Telephone Cooperative

Reynolds, Smith & Hills

RH Electric

Rice Electronics

Richard Blackwell Richard DeClark Construction

Ridge Communications Rockwell Telecom Inc

Roe Communications Inc

Roger's Two Way Radio **Rohl Geomatics** 

Rome Research Corp

Ross Fiberoptic LLC Roy Walker Communications

Royal Canadian Mounted Police

RTC Inc

**RTL Networks** 

RTL Networks Inc **RVC Equipment Repair** S Tek Solutions

**S&P Communications** 

Salina Spavinaw Telephone Co

Sac & Fox Tribe of Iowa Sacramento Municipal Utility District

Saia Communications Inc

SAIC Inc Saipem America Inc

Salt River Project Sam's Club

Samson Electric San Carlos Apache Telecom Utility Inc

San Diego County Water Authority

San Juan County

Staley Communication Inc

SaskPower Savannah Comm & Elect Schneider Electric SCI Mahanoy Education Scientific Research Corp SEA CORP Seadrill Sears Seaspan LLC Secretaria de Salvd Seer Consulting **SEFNCO Communications** Sega Amusement Works Segcom PR Seimitsu Semaphore Corp Seminole County Government Department of Public Safety Senera Gaming Senko Advanced Components Inc Segvans Communications Sesal Hospital SFO Technologies Pvt Ltd Sharp Communication Inc Shaw Cable Shental Short Powerline Services Shreveport Communication Service Inc Sierra Comm Southwest Inc Sierra Conservation Center Sierra Electronics Sierra Telephone Company Silcher Systems & Tech PTE Ltd Silicon Valley Clean Water Silver Mountain Engineering, Ltd Silver Star Communications SiteWise Systems SKLD Mechanical LLC Skycom Satellite Systems Skylakes Medical Center Skywave Communications Inc Slayton Solutions Ltd Smart City Smith Electric Smithville Communications Smithville Telecom SMS Data Products **Snohomish County** SOC LLC Socket Telecom Somitrol of Lexington Sonoma County Water Agency Soon Poh Telecommunications Sorenson Telecom Splicing South Carolina Department of Transportation South Central Bell Telecomm South Central Communications South Lane School South Plains Communications South Texas College South Texas Communications/McAllen South Texas Electric Co-op South Western Wireless Southeast Arkansas College Southeast Nebraska Communications Southern Cable Network Southern Eagle LLC Southern Lights LLC

Southwest Regional Maintenance Center

Spotsylvania Career & Technical College

Staley Technologies Staples Inc State Farm Insurance State of California Department Water Resources State of Illinois - IL Century Network State of Michigan State of Washington Staten Island Railway/Metropolitan Transportation Authority Stearns Electric Steely Lumber Co Stone Mountain Country Store Sturgeon Electric Sudden Link Sun Communications Sunesys/Crown Castle Superior Marine Solutions Supreme Court of VA Supreme Radio Comm Sussex Tech Electronics Sussex Technical High School Sutter Buttes Comm Inc Synergy Concepts System 3 Inc **TAC Solutions** Tacoma Power Tact Communications Consulting Taft Broadcasting Taghleef Industries Tai Hong Construction Pte Ltd Tamuning Plaza Hotel Tap Electric TAPCO Target TAS Communications TASL Inc Tatarka Technologies dba Demerly Communications TBS Electronics Inc TCT Network TDS Baja Broadband TDS Telecom Team Fishel Team Power Solutions TeamOne Communications Tec Pro Solutions Tech Systems Inc Technical Innovation Technifab Products **TEKsystems** Telecom Sales and Service Inc Telect Inc Teledyne Technologies Telepath Corp Tele-Rad Inc Telfos Telsan Teltronic Inc Tesoro Alaska Company Teva-Tech Services Inc Texas A&M University Texas Department of Public Safety Thompson Electronics Tim Hortons Tipmont REMC TOG Systems Ltd Tomba Communications & Electronics Tool Pouch Training School Top Shelf Manufacturing Topscom PTE LTD Toronto Police Services Total Radio Total Safety (H2WR Houston) Towersystems South

Town Communications

Transtector Systems

Trace Services

Transcore

Tredegar Film Products Trek Connect Trevathans Electrical Services Tri Cities Communications Inc Tri County Telephone Tribal Employment Rights Tribalco Inc Tri-Co Communications Inc Trico Industries LTD Trinidad and Tobago Defense Force Trinity Technology Partners Trowbridge & Trowbridge True North Telecom Inc Tule River Tribal Council Turtle Mountain Communications TuWay Communications
Tuway Mobile Communications Inc dba Tuway Wireless TV Warren Twin Eagle Consulting Two Way Radio of Carolina Inc. Two-Way Radio Inc
Tyco Fire Protection Products Tyco Integrated Fire & Security **UBAC Pte Ltd** Uganda Electricity Transmission Co Ltd Ultimate Knowledge Undefined Heights Electric Unionville Chadds Ford School **United Airlines** United Launch Alliance United Radio Communications Inc United States Air Force Illinois Air National Guard Robins Air Force Base Sheppard Air Force Base USAF 2d Communications Squadron **USAF March ARB** Warner Robins Air Logistics Complex United States Army 16th TIN SIG Co 597th Maintenance Detachment CSMS-C NY Army National Guard Nebraska Army National Guard Ordnance Electronic Maintenance Training Department Tobyhanna Army Depot US Army 518th US Army Corps Eng US Army Research Lab Vermont Army National Guard United States Army Reserve United States Bureau of Reclamation United States Coast Guard USCG C3CEN VTS United States Department of Transportation United States Fish & Wildlife Services United States Marine Corp United States Marshall Services **United States Mint** United States Navy Don FRCSW MARMC Code 274 NAV SEA NVWC NAWC Lakehurst Naval Computer & Telecom Area Master Station Naval Cyber Warfare Development Naval Facilities Engineering Command SW Naval Research Lab Naval Support Activity - Souda Bay Naval Surface Warfare Center - Crane Naval Surface Warfare Center - PCP Naval Undersea Warfare Center Navy Computer & Telecom Station - Sicily

Southwestern Bell

Space Age Communications

Springfield Utility Board

Spectrum Communications Ltd Spirit Aerosystems Inc

St Joseph Co Airport Authority

St Louis Metro Police Department

Space and Naval Warfare Systems Ctr (SSC) Atlantic

NUWC Keyport Detachment Hawaii

Norfolk Naval Shipyard

PCU Zumwalt (DDG-1000)

SPAWAR Systems Center Pacific (SSC) Pacific Trident Training Facility Kings Bay

USAAMDS RO US Navy MARMC US Navy NIOC

USS Abraham Lincoln (CVN-72)

USS Hawaii (SSN 776) USS Leyte Gulf (CG-55)

United States Veterans Affairs Department

United Utilities Inc

Unity School of Christianity Universal Cabling Systems

Universidad Metropolitana

Universidad Tecnica del Nor University of Alabama Hospital

University of California Santa Barbara

University of Central Florida

University of Mississippi Medical Center (MED-COM)

University of Stuttgart University of Utah

Univision

US Mobile Wireless dba Day Wireless Sys San Diego

**US Penitentiary Tucscon Utah Communications** 

**Utah County Government** 

**UT-Battelle LLC** Utility Communications Inc.

VA Pittsburgh Healthcare System

Vail Associates Valkyrie Enterprises

Vanderbilt University Vantage Drilling

Vectrus

Vencore Inc

Verizon Federal Network System

Verizon Telecommunications

Verizon Wireless

Versatech Automation

Veterans Assembled Electronics LLC

Victoria Shipyards Co Ltd Video West Inc

Village of Pleasant Prairie

Vintage Security Protection One

Volcano Communications Group

Volcano Telephone

VT Group

Walker & Associates

Walmart

Walsh Electronic Security

Walt Disney World Inc

Wanzek Construction

Ward Bell Communications

Warren County Technical School

Wasco State Prison

Washington Metro Area Transit Authority

Washoe County Watchtower Farms

Wave Broadband Wavetronix

WComGroup WDSL US LLC

Webpass Inc West Rock

West Stanly County Schools Westfield Senior Housing Wharton County Junior College Whidbey Telecom

White Coconut Computer Services

Whitney Solutions LLC

Willbro's

Wind River Casino

Windmar PV Windsor Doors

Windstream Communications

Wireless Advanced Communications

Wireless Communication & Electronics

Wireless Communications Inc

Wireless Flectronics Inc.

Wireless Plus Inc

Wireless Technology Equipment Co

Wireless USA

Wireless Ventures LLC DBA Amerizon Wireless

Wise Communications

Worad Inc

Workhorse Systems LLC

WP Teletronics (AB) Ltd

WPT Electronics

Wyoming Department of Transportation

Xator Xentry

Xerox

Xfinity Xiocom Wireless

Yankee Microwave Inc.

Yokogawa Corp of America

### **ETA Supports STEM Education**

"STEM education is an interdisciplinary approach to learning where rigorous academic concepts are coupled with real-world lessons as students apply science, technology, engineering, and mathematics in a context that makes connections between school, community, work and the global enterprise enabling the development of STEM literacy and with it the ability to compete in the new economy." (Tsupros, 2009) ETA International supports the movement to keep the United States at the forefront of research, innovation, and technology.

As the need for STEM occupations continues to grow, tech-savvy skills are critical. Studies have proven that STEM workers are less likely to experience joblessness than non-STEM workers. (STEM: Good Jobs Now and for the Future, U.S. Department of Commerce, July 2011) As an association for the technician and educator, both can be assured that ETA has always integrated STEM into all of its technical certifications. This allows those who earn ETA certifications the benefit of holding valuable tools as they enter into exciting, rewarding, and innovative careers.









