



CERTIFICATION and MEMBERSHIP Handbook

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MEMBERSHIP IN THE SOCIETY

WHAT IS THE SBE?

The Society of Broadcast Engineers, Inc., formed in 1964, is a non-profit organization serving the interests of broadcast engineers. The SBE is devoted to the professional development of all levels and types of broadcast engineering through education and certification and is the only organization that solely represents the interests of broadcast engineers with federal agencies, legislatures and other industry organizations. Most members participate in one of more than 100 local SBE chapters.

WHO ARE MEMBERS OF THE SBE?

The SBE is committed to serving broadcast engineers no matter what their role. Master control and studio operators, IT personnel, maintenance engineers, engineering supervisors, chiefs, directors and vice presidents of engineering will all find SBE membership beneficial. Members of the SBE come from commercial and non-commercial radio and television stations, cable and satellite facilities, industry, military, colleges and government. Many members are engaging the industry on their own as consultants and contractors. Field and sales engineers and engineers from recording studios, high schools and career centers, production houses and corporate audio-visual departments are also members of the SBE.

WHAT CAN SBE DO FOR YOU?

- Help you keep pace with our rapidly changing industry through involvement in local chapter meetings, facility tours, educational seminars, webinars, online courses and exposure to a steady network of specialized professionals.
- Provide a forum for the exchange of ideas and the sharing of information with other broadcast engineers and industry professionals.
- Establish standards and recognition of professional education and training through certification for broadcast engineers.
- Give you national representation by serving as a voice for you in the industry on technical issues with governmental agencies such as the FCC, legislative bodies and other industry groups.
- Improve the image of the broadcast engineering profession to station management and federal agencies.

All this adds up to keeping you at the top of your field, enhancing your value to your employer, or if you are self-employed, preparing you to meet the changing needs of your clients.

EDUCATIONAL OPPORTUNITIES

Webinars by SBE

Webinars by SBE cover a wide variety of technical and regulatory topics of interest to broadcast engineers. Each webinar typically lasts between 60-90 minutes. A presentation is shown over the Internet and audio is heard through VoIP on your computer or by telephone through a phone conference. Webinars are a good way to learn about something new when you can't afford the cost of travel or time away from work or home.

Ennes Workshops

The Ennes Workshops, presented by the SBE, bring affordable education to members locally. These programs are typically one day in length. Presentations are educational in nature and cover radio, television and IT topics. Chapters can learn more about bringing a workshop to their area by visiting the SBE website under Education and Ennes Workshops.

SBE University

With these online, self-study courses, you pick the date, time and location to learn. Now that's convenience! The member cost for these courses varies from \$80 to \$209. Each course in SBE University looks like an electronic book in that it is broken into chapters, includes a glossary of terms, quizzes and a final exam. SBE University is just one more way for broadcast engineering professionals to get the education they need to succeed in a cost and time effective way.

Leadership Development

The SBE is devoted to providing it's members the opportunity to become outstanding staff leaders. The intense, live three-day course challenges broadcast engineers to better themselves as leaders in an interactive environment. Course instruction includes a self assessment of leadership behavioral style, effective motivation techniques, building winning teams, managing conflict, how leadership is an attitude and more. Also available is a webinar series that provides an introduction to leadership and explores basic principles of leadership, how effective communication can dramatically increase efficiency and employee satisfaction, and how motivation plays an essential part in employee commitment.

All of the education programs listed above, qualify for SBE Recertification credit.

CAREER SERVICES

SBE JobsOnline

SBE JobsOnline assists our members in locating available broadcast engineering positions throughout the country. This robust, easy to use tool is comprised of job openings that have been submitted to the SBE by employers. There is no charge to employers to list a position on SBE JobsOnline. Members of the SBE may subscribe for free and select search criteria based on job criteria you choose. SBE JobsOnline will send an email automatically to you when a new job posting meets your search criteria.

SBE ResumeBank

The SBE ResumeBank assists members of the SBE in obtaining broadcast engineering positions throughout the country. Members of the SBE members can post their own resume on the SBE ResumeBank. Employers are able to scan anonymous profiles of participating SBE members. Profiles contain information such as the position(s) being sought, the years of experience, education the candidate has and the desired work locations. Once the employer identifies resumes of interest, for a small fee, he will gain access to those resumes including the candidate's contact information.

SOCIAL MEDIA

Society of Broadcast Engineers Facebook page – Allows visitors to see society updates and photos. [facebook.com/SBEorg](https://www.facebook.com/SBEorg)

Twitter – @SBEorg to see recent posts

LinkedIn group – This is a group for members of the SBE and the industry. *SBE National Office* on LinkedIn.com

SBE Blog – Followers of the SBE blog are connected to information from the SBE national office about new developments in membership, chapter news, certification, education, regulatory issues, the JobsOnline and discounted technical books.

<http://blog.sbe.org>

SBE Roundtable – Members only email discussion group about broadcast engineering and the SBE. sbe@sbe.org

SBE Chat – Members only email discussion group on any topic. sbe-chat@sbe.org

SBE EAS Exchange – Email discussion group about the Emergency Alert System (EAS) open to anyone with a bona fide interest in the EAS. sbe-eas@sbe.org

OTHER SBE BENEFITS

Through the SBE Bookstore, the society offers many relevant books and manuals from respected publishers to help broadcast engineers further their industry knowledge or prepare for certification. Members of the SBE get a price discount up to 20%. Visit the SBE Bookstore at the SBE website at www.sbe.org/sections/store_books.php

For a small annual fee, contract engineers may be listed in the SBE's Contract & Consulting Engineer online directory posted on the SBE website. Individual members may obtain a free copy of a sample contract for use by contract engineers. The SBE is the only organization that solely represents the interests of broadcast engineers with federal agencies, legislatures and other industry organizations. The SBE provides free legal counseling to SBE chapters on incorporation and tax exempt status.

Various insurance programs are available to members of the SBE at group rates. Life and extended care insurance are offered through Mercer Consumer and professional liability coverage is available through the Hays Company.

The SBE maintains the SBE Store so you can show your support and membership in SBE with logo items such as hats, shirts, mugs, pins and more.

TO APPLY FOR MEMBERSHIP

You may apply for membership online at the SBE website, www.sbe.org or use the SBE Membership Application included in the back of this handbook. If you wish to become a SBE member without applying for certification, complete only the Membership Application. If, once you have reviewed this booklet, you wish to apply for SBE certification, you need only complete the appropriate certification application, which will also serve as your Membership Application. You can apply for SBE membership in one of the following four membership levels:

MEMBER – To qualify in the Member category, you must be presently engaged in broadcast engineering or its allied fields. Alternatively, you may qualify by having an academic degree in electrical engineering or its equivalent, or have scientific or professional experience in the communications field including the design or marketing of broadcast-related products. If qualifying under the scientific or professional experience provisions, you must have at least four years of active participation in broadcast engineering or its allied fields and have demonstrated acceptable technical proficiency.

ASSOCIATE MEMBER – You may apply for Associate member status if you do not qualify under the provisions for Member and are actively engaged in the objectives of the society.

STUDENT MEMBER – If you are actively engaged in the study of companion engineering fields at the post-secondary level, you are eligible for Student Membership. You will need to provide verification by your college advisor, registrar or other academic representative to verify your student status.

YOUTH MEMBER – If you are a high school student active in the technical operation of a high school or career center broadcast station, school radio club or community organization such as an amateur radio club or have a general interest in broadcast engineering, you may become a Youth Member.

When you join, you select which SBE local chapter you would like to be affiliated with. In most chapters, there are no additional dues to pay beyond your national membership.

To apply for SBE membership without applying for certification, use the form at the back of this handbook or apply online at www.sbe.org.

PROGRAM OF CERTIFICATION

The SBE Certification Program, established in 1975, is a service contributing to the professional development of the broadcast engineer and advancement of the field of broadcast engineering. The SBE Program of Certification is administered by the SBE National Certification Committee. The Committee, consisting of experienced broadcast engineers, continually develops exam questions based on changes in the industry and technology.

PROGRAM OBJECTIVES

- To raise the status of broadcast engineers by providing standards of professional competence in the practice of broadcast engineering and related technologies.
- To recognize those individuals who, by fulfilling the requirements of knowledge, experience, responsibility and conduct, meet those standards of professional competence.
- To encourage broadcast engineers to continue their professional development.

ELIGIBILITY

To be eligible for SBE Certification, you must have a strong interest in the design, operation, maintenance or administration of the day-to-day problems and achievements associated with the operation of a broadcast facility or related technology. You must also meet the specific eligibility requirements of the desired certification level. The SBE broadcast engineer certificate is not a license; it is a document that recognizes professional competence by peers in a professional, independent organization. Certification is for individuals only and may not be used to imply that an organization or firm is certified.

CERTIFICATION AND MEMBERSHIP

While membership in the SBE is not a requirement of the SBE Certification Program, because society members share in the overhead cost of all society activities, non-member certification fees are higher.

Non-members who certify are eligible to receive membership in SBE through April 1 of the following year. We hope you take advantage of this proposal. It is our hope that you will like what the SBE has to offer and will want to continue your membership and support of your society.

ADMINISTRATION

Responsibility for administering the SBE Certification Program rests with the SBE National Certification Committee appointed by the SBE President with the approval of the SBE Board of Directors, members of which must be SBE certified. Qualifications of each candidate for certification will be judged by the National Certification Committee. Criteria for the examinations shall also be determined by the National Certification Committee.

A certification director will be responsible for carrying out the details of the program. The certification director will serve on the committee as an advisor but will have no vote. This person will attend all meetings, keep the minutes of those meetings and prepare regular reports to the SBE Board of Directors.

Examinations will be administered through local chapters under the supervision of proctors approved by the SBE National Certification Committee. Where no chapters exist, the National Certification Committee will arrange for suitable testing procedures. These proctors will be SBE officers, chapter officers, educators or other responsible persons.

CERTIFICATION FEES

Fees to cover administrative costs are non-refundable. "No Shows" will be assessed the same rescheduling fee as "Retakes" for future exams. Check with the SBE National Office or see the enclosed cover letter for the most current fee structure.

CERTIFICATION PREPARATION

There are two resources SBE offers to help you in preparing for a certification exam.



The SBE has created sample test software called CertPreview, to provide a sampling of what to expect on the actual exams. Each SBE CertPreview contains approximately 100 + questions similar to those that appear on the actual exam.

The SBE maintains a list of suggested references to help you prepare for an exam. SBE Certification exams are not specifically based on these materials. However, they can be good tools to use to study for the exams.

You may purchase the SBE CertPreview or access the Suggested Reference Lists by going to www.sbe.org

CERTIFICATION CLASSIFICATIONS

There are eight (8) engineering certifications, two (2) operator certifications, one (1) networking engineer certification and one (1) broadcast networking technologist certification – each to be valid for a period of five (5) years. There are also three (3) specialist certifications to establish a benchmark of individual strengths for those already certified at specific certification levels. The certification designations are as follows:

OPERATOR LEVEL CERTIFICATIONS

- Certified Radio Operator® (CRO®)
- Certified Television Operator® (CTO®)

BROADCAST NETWORKING CERTIFICATION

- Certified Broadcast Networking Technologist® (CBNT®)

ENGINEERING LEVEL CERTIFICATIONS

- Certified Broadcast Technologist® (CBT)
- Certified Audio Engineer® (CEA®)
- Certified Video Engineer® (CEV®)
- Certified Broadcast Radio Engineer (CBRE®)
- Certified Broadcast Television Engineer (CBTE®)
- Certified Broadcast Networking Engineer (CBNE)
- Certified Senior Radio Engineer (CSRE®)
- Certified Senior Television Engineer (CSTE®)
- Certified Professional Broadcast Engineer® (CPBE®)

SPECIALIST CERTIFICATIONS

- 8-VSB Specialist (8-VSB)
- AM Directional Specialist (AMD)
- Digital Radio Broadcast Specialist (DRB)

Life Certification

The following certifications, while still in active use, are no longer issued.

- Certified Senior Broadcast Engineer (CSBE)
- Certified Radio and Television Broadcast Engineer (CB RTE)
- Certified Senior Radio and Television Broadcast Engineer (CS RTE)

SBE CERTIFIED LOGO

Upon passing a SBE Certification exam, you will be authorized to display the SBE Certified logo on your business cards, letterhead and resume as well as use the certification letters after your name. For the proper use of this logo, go to the SBE website.



**CERTIFIED RADIO OPERATOR® (CRO®)
CERTIFIED TELEVISION OPERATOR® (CTO®)**

(Order form E)

Because Certified Radio Operator and Certified Television Operator are operator certifications (rather than engineering certifications), they are administered in a unique way, through the study of a certification handbook and completion of a test based on that material.

SBE Certification is not an FCC requirement. Nevertheless, it is evidence of an individual's qualifications to serve as an operator at a broadcast station and will certainly be useful when seeking employment or advancement. Each radio and television station has its own policies and procedures, and many have a written station manual. However, the FCC Rules and basic operator procedures apply to all stations. The *Certification Handbook for Radio Operators* and the *Television Operator's Certification Handbook* fill the needs of broadcast stations and operators today.

The SBE radio and television operator Certifications are a great way to demonstrate to a prospective employer that you have acquired the basic knowledge to operate a radio or television station and comply with FCC Rules and Regulations. SBE member engineers are encouraged to help promising newcomers by giving advice and directions.

**CERTIFICATION HANDBOOK FOR RADIO OPERATORS
2nd edition**

In the early 1980's, and as part of their deregulation process, the Federal Communications Commission (FCC) abolished the mandatory requirement for Radio Station Operators and Engineers to hold an FCC license of any class. That left the industry without a tool for measuring a perspective employee's proficiency in station operations. Since that time the Society of Broadcast Engineer's certification program has become the industry's benchmark standard for gauging an individual's knowledge, skills, and abilities required for the operation of a broadcast station. This handbook helps operators learn more about the technical and business facets of a radio station. Its broad-scope contents are extremely helpful to seasoned professionals as well as anyone who is new to the radio station business.

The book covers the general responsibilities of a radio operator including professional etiquette, management structure, station operations, FCC rules, and a typical radio station technical layout. Topics include various types of microphones and their use, digital audio mixing devices, audio processors, equalizers, electronic audio routing, computerized recording and playback systems, program-audio delay equipment, telephone-interface equipment, studio to transmitter (STL) links, transmitter remote control and monitoring methods, and satellite program delivery systems. The book refers to many of the digital technologies used in broadcasting. Other chapters cover station logs, the Emergency Alert System (EAS), safety requirements, meter reading procedures, and station identification requirements and procedures. A comprehensive glossary is included as a quick reference guide.

A thorough study of this book will prepare the reader for the SBE Radio Operator certification test. Successful completion of the test assures any perspective radio station employer of your knowledge and skills required to become a Radio Station Operator.

**TELEVISION OPERATORS CERTIFICATION HANDBOOK
7th edition**

The SBE National Certification Committee, in cooperation with the Ennes Educational Foundation Trust, developed the television operator certification along with this handbook to target the entry-level, non-technical pool of applicants that fill master control positions in today's television marketplace. It also provides a good first step for

those interested in pursuing a technical career in broadcast engineering.

There was once a requirement that television operators hold a First Class FCC license. This provided employers with an indication that the applicant had demonstrated enough technical knowledge to pass elements one through four of a federal government exam. In 1994, SBE developed the Television Operator Certification to assist employers in evaluating applicants. Many stations now make certification a requirement for employment for their operators.

The new 7th edition has been totally rewritten and updated to include the latest developments in digital television. It is designed for the entry level, non-technical pool of applicants that fill master control positions in today's television marketplace.

The 7th edition includes practical information on the Emergency Alert System, FAA tower lighting, remote control operation, FCC power levels, program sources, ingesting, Children's Television time restrictions and more. It contains new and updated information on how TV facilities work, operating the station, the duties of master control operators and maintaining the station logs. It explains the digital signal path as programming passes through typical equipment found in a modern digital master control. The last chapter provides a basic introduction to the principles of 8-VSB transmission, video compression, PSIP and the DTV formats used to display the video picture on the home receiver.

This handbook assumes a basic familiarity with television station equipment and operations and provides most of the general information necessary for television operators. Readers may be working operators wishing to certify their skills and knowledge. Others may wish to become a television operator as their entry into the world of broadcasting. Your interest may lie in the creative side of television production, and the position of master control operator can open the door to that goal. There is a sample test at the end of the handbook that closely reflects the material covered in the actual test.

PROCEDURES

Hardcopy handbook

You may order these handbooks by using order form E in the back of this booklet or by ordering on the SBE website. Once you have completed studying a handbook, you may fill in the card in the back of the handbook. You have one year from the purchase date of the handbook to take the exam, and your deadline will be clearly stamped on the card. These exams are given by a special designated proctor or a local SBE chapter. Membership in the SBE is not required for operator certification. The cost of certification testing is included in the price of the handbook.

Digital book – content only

The CRO and CTO handbooks are now available for download to your reading device. The digital books can be purchased through Amazon or Barnes and Nobles.

Optional certification exam - available after purchasing the digital book.

After completing the digital book, you can purchase the corresponding certification operator exam by accessing the SBE bookstore.

The Certified Radio or Television Operator exam: Exams consist of 50 multiple-choice questions based entirely on the material in the handbooks. Each exam is computer-selected from a pool of questions, and every exam is unique. The exam questions cover essentially the same material as the questions in the sample exam found in the back of each handbook.

CERTIFIED BROADCAST NETWORKING TECHNOLOGIST® (CBNT®)

(Application D)

This certification is designed for persons who wish to demonstrate a basic familiarity with networking hardware as utilized in business and audio/video applications in broadcast facilities. The **Certified Broadcast Networking Technologist** certification can be obtained by achieving a passing grade on the proficiency examination. There is no experience requirement to be eligible for the examination other than current employment in broadcast engineering or related technology.

The Certified Broadcast Networking Technologist exam: The exam is three hours and consists of 50 multiple-choice questions relating to radio and television broadcast station internal network installation and operation. The examination is not software-specific and is designed to place an emphasis on the hardware and installation issues common to all platforms. Each exam is computer-selected from a pool of questions, and every exam is unique. Each correct answer will be worth two points. The Broadcast Networking Technologist exam will consist of questions on:

- **Network topologies and layouts**
- **Common network protocols**
- **Wiring standards and practices**
- **Maintenance, troubleshooting and connectivity issues**
- **Challenges unique to broadcast-based networks**

CERTIFIED BROADCAST TECHNOLOGIST® (CBT)

(Application A)

The **Certified Broadcast Technologist** certification can be obtained by meeting one of the following requirements:

1. By achieving a passing grade on the proficiency examination. There is no experience requirement to be eligible for the examination.
2. By holding a valid General Class Radio Telephone license with either two (2) years of continuous satisfactory service in broadcast engineering or related technology prior to the date of application, or a total of three out of the last five years of satisfactory service in broadcast engineering or related technology.
3. By holding a valid FCC Amateur Extra Class license with either two years of continuous satisfactory service in broadcast engineering or related technology prior to the date of application, or a total of three out of the last five years of satisfactory service in broadcast engineering or related technology.
4. By holding a valid license equivalent to one of the FCC licenses listed above, who meet the service requirement. (**NOTE:** This provision is for those who live in areas that do not operate under the rules and regulations of the FCC.)

The Certified Broadcast Technologist exam: Exams are three hours and consist of 50 multiple-choice questions relating to either AM/FM or TV. Each exam is computer-selected from a pool of questions, and every exam is unique. Each correct answer will be worth two points. The Broadcast Technologist multiple choice examination will consist of questions on:

- **electronic fundamentals**
- **FCC rules pertaining to operating tolerances**
- **safety**

CERTIFIED AUDIO ENGINEER® (CEA®) or CERTIFIED VIDEO ENGINEER® (CEV®)

(Application B)

The candidate for **Certified Audio Engineer** or **Certified Video Engineer** must have five years of suitable experience in audio/video engineering or related technology and must achieve a passing grade on the proficiency examination.

Substitution of broadcast engineering or education in related technologies, for experience may be made as follows:

- a. A state registered Professional Engineer's license will count as four (4) years experience for all levels of certification.
- b. A bachelor's degree will count as four years experience.
- c. An associate degree will count as two years experience.
- d. Years of related accredited education, i.e., military, correspondence, etc. can be substituted, year for year, up to four (4) years.
- e. Applicant will not receive dual credit for concurrent years of experience and education.

The Certified Audio or Certified Video Engineer exam: Exams are three hours, consist of 50 multiple-choice questions relating to either audio or video, covering the equivalent of five years experience. Each exam is computer-selected from a pool of questions, and every exam is unique. Each correct answer will be worth two points. The Audio/Video Engineer multiple choice examination will consist of questions on:

- **operating practices**
- **problems**
- **theory**
- **safety**

CERTIFIED BROADCAST RADIO ENGINEER (CBRE®) or CERTIFIED BROADCAST TELEVISION ENGINEER (CBTE®)

(Application B)

The candidate for **Certified Broadcast Radio Engineer** or **Certified Broadcast Television Engineer** must have five years of suitable experience in broadcast engineering or related technology and must achieve a passing grade on the proficiency examination. Substitution of broadcast engineering or education in related technologies, for experience may be made as follows:

- a. A state registered Professional Engineer's license will count as four (4) years experience for all levels of certification.
- b. A bachelor's degree will count as four years experience.
- c. An associate degree will count as two years experience.
- d. Years of related accredited education, i.e., military, correspondence, etc. can be substituted, year for year, up to four years.
- e. Applicant will not receive dual credit for concurrent years of experience and education.

The certified broadcast engineer exam: Exams are three hours and consist of 50 multiple-choice questions relating to either AM/FM or TV, covering the equivalent of five (5) years experience. Each exam is computer-selected from a pool of questions, and every exam is unique. Each correct answer will be worth two points. The Broadcast Engineer multiple choice examination will consist of questions on:

- **safety**
- **problems**
- **operating practices**
- **theory**

NOTE: The certified broadcast engineer certificate will carry space for a special designation in either AM/FM or TV. The candidate may take

the Broadcast Engineer examination by meeting the experience requirement either in AM/FM or TV or in both fields of specialization. Satisfactory passing of one or more of these classes will permit the person to attach the respective designation(s) to the certificate. Designations will be by examination only.

CERTIFIED BROADCAST NETWORKING ENGINEER (CBNE)

(Application F)

The candidate for **Certified Broadcast Networking Engineer** must have five years of suitable experience in broadcast engineering or related technology and must achieve a passing grade on the proficiency examination.

Substitution of broadcast engineering or education in related technologies, for experience may be made as follows:

- a. A state registered Professional Engineer's license will count as four years experience for all levels of certification.
- b. A bachelor's degree will count as four years experience.
- c. An associate degree will count as two years experience.
- d. Years of related accredited education, i.e., military, correspondence, etc. can be substituted, year for year, up to four years.
- e. Applicant will not receive dual credit for concurrent years of experience and education.

The Certified Broadcast Networking Engineer exam: Exams are three hours and consist of 50 multiple-choice questions. Each exam is computer-selected from a pool of questions, and every exam is unique. Each question is worth two points. Two essay-type questions are selected specifically for each applicant, based on their reported background and training. The essay question is worth 20 points.

CERTIFIED SENIOR RADIO ENGINEER (CSRE®) or CERTIFIED SENIOR TELEVISION ENGINEER (CSTE®)

(Application B)

The candidate for **Certified Senior Radio Engineer** or **Certified Senior Television Engineer** must have 10 years of responsible broadcast engineering or related technology experience and must achieve a passing grade on the proficiency examination.

Substitution of broadcast engineering or education in related technologies, for experience may be made in the qualifications as follows:

- a. A state registered Professional Engineer's license will count as four (4) years experience for all levels of certification.
- b. A bachelor's degree will count as four years experience.
- c. An associate degree will count as two years experience.
- d. Years of related accredited education, i.e., military, correspondence, etc. can be substituted, year for year, up to four years.
- e. Applicant will not receive dual credit for years of experience and education which are concurrent.

The certified senior engineer exam: Exams are three hours and consist of 50 multiple-choice questions relating to either AM/FM or TV, covering the equivalent of 10 years experience at a responsible level. Each exam is computer-selected from a pool of questions, and every exam is unique. Each question is worth two points. One essay-type question will be selected for each designation. The essay question is worth 20 points. The senior broadcast engineer multiple-choice examination will consist of questions on:

- operating practices
- safety
- theory
- problems
- supervision and management

NOTE: The certified senior broadcast engineer certificate will carry space for a special designation in either AM/FM or TV. The candidate may take the senior broadcast engineer examination by meeting the experience requirement either in AM/FM or TV or in both fields of specialization. Satisfactory passing of one or more of these classes will permit the person to attach the respective designation(s) to the certificate. Designations will be by examination only.

CERTIFIED PROFESSIONAL BROADCAST ENGINEER® (CPBE®)

(Application C)

The candidate for **Certified Professional Broadcast Engineer** must have at least 20 years of professional broadcast engineering or related technologies experience in radio and/or television, exclusive of any educational credit. Because the CPBE requires 20 years of professional experience in broadcast engineering, educational credits will not be counted toward that total. CPBE candidates must verify 20 years of compensated professional experience excluding educational credits. The candidate must presently be certified on the Senior Broadcast Engineer level unless registered as a professional electrical engineer in the U.S., Canada, or any other jurisdiction with a reciprocity agreement with the U.S. Accreditation Board for Engineering Technology, Inc. (ABET).

The candidate must submit evidence satisfactory to the Committee that he or she has the appropriate engineering background, experience and training. The candidate must demonstrate a degree of knowledge and participation in one or more of (but not limited to) the following:

- a. Maintenance
- b. Systems Design
- c. Management or Supervision
- d. Continuing Education

A registered Professional Electrical Engineer's license (as stated above) will count as four years. However, if you are a registered Professional Electrical Engineer and meet the 20 years of service in broadcast or related technology, you may obtain Professional Broadcast Engineer Certification without taking a test.

The candidate must have three letters of reference. Two must be from Certified Professional Broadcast Engineers, certified senior broadcast engineers or registered Professional Electrical Engineers (as stated above). At least one letter of reference must be from a person who has supervised his/her work. This person does not necessarily have to be certified; however, if he or she is certified at one of the above-mentioned levels, that reference will be counted as two letters. The required letters of reference, written specifically for the 20-year certification level, must accompany the application. In addition to the completed application form, a resume attached to the application is most helpful to the National Certification Committee in reviewing the application. You must also submit a statement showing why you believe your professional experience, educational background and training qualifies you for certification under this provision of the Certification Program.

The review procedure for Professional Broadcast Engineer certification will be the same as that used for recertification. The application for CPBE will be reviewed by the SBE Local Chapter Certification Committee before final evaluation by the National Certification Committee.

SPECIALIST CERTIFICATIONS

To establish a benchmark of individual strengths, the National Certification Committee created the concept of Specialist Certifications. To apply for a specialist certification, you must currently hold certification on the broadcast engineer, senior broadcast engineer or professional broadcast engineer certification level. Exams are three hours and consist of 50 multiple-choice questions. One essay-type question will be selected for each designation. Each essay question is worth 20 points.

8-VSB Specialist (8-VSB)

The SBE Program of Certification designed the 8-VSB Specialist certification to help evaluate an individual's ability to perform the necessary tasks to keep facilities operating properly. The exam will cover these areas of competency: transport stream, audio (AC-3), video (MPEG-2), PSIP, DTV standards documents and transmission systems.

AM Directional Specialist (AMD)

The SBE Program of Certification designed the AM Directional Specialist certification to help evaluate an individual's ability to perform the necessary tasks to keep facilities operating properly. AM radio stations can operate as non-directional with a single tower or directional using more than one tower. While both require knowledge and skill to maintain in proper working order, the directional antenna system involves a higher degree of skill and understanding of RF theory.

The exam will cover the operation, maintenance and repair of a directional antenna system. These are the tasks common to the station engineer charged with maintaining these systems. The exam will also gauge a person's knowledge of AM radiators, understanding of the principles of phase addition and cancellation, familiarity with the various components used in a directional antenna system, and ability to correctly make necessary measurements and take proper procedures to make repairs and adjustments to the system. In addition, the exam will cover the FCC rules concerning directional operation, test equipment and safety procedures.

Digital Radio Broadcast Specialist (DRB)

The SBE Program of Certification designed the Digital Radio Broadcast Specialist certification to help evaluate an individual's ability to perform the necessary tasks to build and keep facilities operating properly. It will qualify an individual's knowledge of digital radio broadcasting including audio processing, studio-to-transmitter links and transmission of multi-channel digital program streams.

The specialist exam will include knowledge of importers, exporters, the various methods of combining analog and digital transmitters to antenna systems, delivery of digital audio signals and data to transmitter sites, transmitter emission mask measurements, AM and FM FCC rules, monitoring of digital signals and bandwidth requirements for AM antenna systems.

**Inquiries should be made to the attention of:
Certification Department
Society of Broadcast Engineers
9102 N. Meridian Street, Suite 150
Indianapolis, IN 46260**

**Phone: (317) 846-9000
Fax: (317) 846-9120**

FREQUENTLY ASKED CERTIFICATION QUESTIONS

Q. What is the passing score for the certification exams?

- A. Certified Television Operator (CTO) - **90%** Certified Radio Operator (CRO) - **90%**
- Certified Broadcast Technologist (CBT) - **70%** Certified Broadcast Networking Technologist (CBNT) - **70%**
- Certified Video Engineer (CEV) - **70%** Certified Audio Engineer (CEA) - **70%**
Certified Broadcast Television Engineer (CBTE) - **70%** Certified Broadcast Radio Engineer (CBRE) - **70%**
- Certified Broadcast Networking Engineer (CBNE) - **84%** combined score of multiple-choice and essay question
- Certified Senior Television Engineer (CSTE) - **84%** combined score of multiple choice and essay question
Certified Senior Radio Engineer (CSRE) - **84%** combined score of multiple choice and essay question
- 8-VSB Specialist (8-VSB) - **84%** combined score of multiple choice and essay question
AM Directional Specialist (AMD) - **84%** combined score of multiple choice and essay question
Digital Radio Broadcast Specialist (DRB) - **84%** combined score of multiple choice and essay question

Q. What happens if I don't pass?

- A. You can retake the exam for a \$25 fee as early as the next scheduled exam session.

*Applicants are only notified whether they **passed** or **failed** an exam. Scores are not given out to anyone.*

Q. How long will it be once I've taken the test before I know the results?

- A. That answer varies depending on the type of test you have taken. An exam that doesn't include an essay question can be graded and the results sent back within a couple days of receiving it at the SBE National office. If there was an essay included with the exam, those grades may take longer. (The essays are sent to members of the National Certification Committee for grading.)

Q. Once I pass an exam, what then?

- A. You will receive a card and certificate of certification in the mail. Your certification is valid for five (5) years. SBE will also notify your employer, or anyone else you designate, of your certification if you request at the time of application.

Q. How many books may I bring to the examination?

- A. As many as you like, but remember they cannot be used during the essay portion of the senior, specialist or networking engineer exams. You may also take in any book that you think may be helpful for your exam, even if it does not appear on the Suggested Reference List.

Q. How about written notes?

- A. You may not utilize notes during the examination process. This is done to insure the integrity of the question database.

Q. Are calculators and computers allowed during the test?

- A. Calculators, yes -- computers, no. You may utilize your smart phone as a calculator but you will be required to put it in "airplane mode". You will be on your honor not to use it for recording notes during the test.

Q. Why aren't computers allowed?

- A. Maintaining the integrity of the question database is critical to the success of our program. We want to be certain that the questions are not removed from the examination room, and by eliminating computers and restricting handwritten notes, we hope to accomplish that objective.

Q. Will success in a certification test guarantee a pay increase for me?

- A. Sorry, no one can guarantee that. However, you will be joining a select group that proclaims to the world that they believe in investing in their future and improving their value to their employees.

Q. How current are the exam questions?

- A. They are reviewed by the Certification Committee at least three times per year. We make a significant investment to keep the questions aligned with current technology.

CERTIFICATION APPLICATION PROCEDURES

- Applications are available in the back of this booklet, by accessing the SBE website, through the local chapter certification chairman or they may also be obtained from the certification director. The completed form, with proper fee, may be filed with the certification director at any time.
- After the certification director has determined the application is in order and the prerequisites have been verified, the application will be submitted to the SBE National Certification Committee for action.
- The committee will review the application to determine the examination level for which the applicant is eligible. Those who are judged eligible will be notified of dates, places and times that examinations will be given.
- Exams are given four times a year at the local SBE chapters in February, June, August and November. Exams are also given one day a year during the National Association of Broadcasters (NAB) convention in Las Vegas, NV. Check the SBE website, www.sbe.org, for specific dates.
- The locations and dates for examinations will be determined by the National Certification Committee. Locations will normally be at a local chapter, college, university, technical school, or other suitable place as designated by the chairman of the certification committee.

If the candidate is unable to take an exam during the normal exam periods, the candidate may choose to have the exam given at another time, based on the availability of the proctors. Please contact the certification director if you need to set up a custom-proctored exam.

If a candidate needs exam adaptations or accommodations because of a disability, if the candidate has emergency medical information to discuss, or if the candidate needs special arrangements in the

event the testing building must be evacuated, please include information with the application so appropriate facilities can be provided.

- Because of the diversity of candidates' experience, the examinations will contain a suitable choice of questions that are computer-selected from a file of several hundred questions relating to AM, FM and/or TV broadcast engineering. (More details on the examination process are discussed below in [Taking the Test](#).)
- The results of the examination will be scored by computer and recorded on the candidate's application form by the Certification Director. The Certified Senior Broadcast Engineer and Certified Specialist essay questions will be graded by the SBE National Certification Committee.
- Candidates who qualify for certification will be notified by the certification director, and their names will be printed in The Signal, the SBE's bimonthly newsletter.

If the candidate fails the examination, he or she may retake it one additional time at the next scheduled testing period by paying a rescheduling fee. Further attempts require submission of a new certification application.

Decisions may be appealed to the SBE certification committee with any additional information the candidate wishes the committee to consider. A second appeal may be made to the SBE Board of Directors.

- The National Certification Committee will report the activities of the committee to the board of directors at each scheduled meeting.

All details of an applicant's request for certification will be kept confidential. The Society of Broadcast Engineers will not disclose the names of those who fail.

TAKING THE TEST

- Multiple choice questions are used, even for problems requiring calculations. Only in a portion of the senior broadcast engineer and Specialist exams are there essay-type questions.
- Candidates will NOT be allowed to use notes, old exams or other study materials. Standard reference texts and tables and calculators will be allowed, but not computers. Essay questions are closed book.
- Scratch paper may be used but must be re-sealed with the exam. Only blank paper may be taken from the examination room.
- The examinations are designed to be representative of the "real world" of broadcast engineering. Therefore, emphasis is placed on the ability to solve problems rather than on the memorization of answers.
- Each examination must be completed within three hours.
- Each examination will be identified with the name of the candidate and will be handled in specially sealed envelopes.
- Each candidate will be required to sign a statement that he/she will not divulge the contents of any questions contained in his/her examination.
- **Numerical scores will NOT be reported. Candidates will be notified ONLY of pass/fail results.**

MAINTENANCE OF CERTIFICATION

SBE Certification is valid for a period of five (5) years. Applications for recertification will be accepted six (6) months prior to the expiration date on your certificate. Certification can be renewed the following ways:

❖ **Recertification for Certified Radio Operator® (CRO®) and Certified Television Operator® (CTO®):**

At the end of the five year period, the radio and television operator certifications can be renewed by meeting the service requirement as verified by your supervisor, or you may upgrade your certification to a higher level by passing an examination and meeting the appropriate service requirements

❖ **Recertification for Certified Broadcast Technologist® (CBT):** At the end of the five year period, the broadcast technologist certification can be renewed by meeting the service requirement of continuous employment in broadcast or broadcast related industry for three of the past five years preceding the renewal application, or you may upgrade your certification to a higher level by passing an examination and meeting the appropriate service requirements.

❖ **Recertification for Certified Broadcast Networking Technologist® (CBNT®), Certified Broadcast Networking Engineer (CBNE), Certified Audio Engineer® (CEA®), Certified Video Engineer® (CEV®), Certified Broadcast Radio Engineer (CBRE®), Certified Broadcast Television Engineer (CBTE®), Certified Broadcast Networking Engineer (CBNE), Certified Senior Radio Engineer (CSRE®), Certified Senior Television Engineer (CSTE®) and Certified Professional Broadcast Engineer® (CPBE®):** The continuing education of broadcast engineers is necessary to remain current with state-of-the-art technology. To ensure that each certified broadcast engineer maintains technical competence, he or she must participate in the **Maintenance of Certification Program**. He or she may do this by accumulating the required professional credits every five years or by examination.

❖ **Recertification for 8-VSB Specialist (8-VSB), AM Directional Specialist (AMD) and Digital Radio Broadcast Specialist (DRB):** Specialist certifications are renewable with their host certifications for a modest fee. When applying for recertification of the host certification, simply indicate your desire to recertify your specialist certification and include the additional fee; no other action is required.

<u>CERTIFICATION LEVEL</u>	<u>CREDITS REQUIRED</u>
Broadcast Networking Technologist (CBNT)	20
Audio or Video Engineer (CEA or CEV)	20
Broadcast Radio or Television Engineer (CBRE or CBTE)	20
Broadcast Networking Engineer (CBNE)	20
Senior Radio or Television Engineer (CSRE or CSTE)	25
Professional Broadcast Engineer (CPBE)	30

PROFESSIONAL CREDITS

A specific number of professional credits are required to maintain certification under each certification level:

To help you keep track of your credits as you go, the certification committee provides a Maintenance of Certification brochure, there is also an excel spreadsheet that may help you to keep track of your points electronically both are available at www.sbe.org.

The credit values for each of the activities and the total professional credits required for recertification are based on guidelines of the Commission on Certification and recertification requirements of other

professional societies. **The credits claimed must be selected from at least four of the categories as follows.**

CATEGORY A

Employment as a full-time manager or supervisor, or at a decision-making level in broadcast engineering, or related technology, or as a consultant or equivalent: 2 credits per year

- Full-time employment in broadcast engineering or allied field: 1 credit per year (Maximum 10 credits)

Those claiming this credit must provide a statement of the work performed and the period claimed, also provide a statement that there has been no change in his/her responsibility or qualifications since certification. Each statement used must be attested to by his/her supervisor.

CATEGORY B

- SBE Leadership Development Course: 1 credit per 8 hours of instruction
- Successful completion of an accredited course in broadcast engineering or allied field as a student: 1 credit for each CEU (Continuing Education Unit) earned
- If you are not a full-time teacher, teaching an accredited course in broadcast engineering or allied field: 2 credits per CEU

Sponsors of continuing education programs may request the SBE National Certification Committee to assign a professional credit value to a specific course or program. Any SBE certified broadcast engineer may request a determination of credit value for a specific course or program if the sponsor has not specified professional credit.

CATEGORY C

- Presentation of a significant paper or talk on a broadcast engineering subject before a national or regional engineering meeting or conference: 2-10 credits per paper or talk
- Presentation for a local chapter technical meeting: 1-5 credits per paper or talk

The SBE National Certification Committee will determine the credit value based on the significance of the paper or talk.

CATEGORY D

- Publication of a technical article in a national broadcast periodical: 2-10 credits per article
- Publication of an article in a local chapter publication: 1-5 credits per article

The SBE National Certification Committee will determine the credit value based on the significance of the article.

CATEGORY E

- Active membership and participation in the SBE or other national technical society related to broadcasting: 1 credit per group per year (Maximum 10 credits)

CATEGORY F

- Active participation as an elected or appointed officer or committee member in the SBE or other technical society, either at a local or national level: 2 credits per group per year (Maximum 10 credits)

CATEGORY G

- Attendance at local SBE meetings and other local technical conferences and seminars: ½ credit per local meeting
- Attendance at regional or national conferences, seminars and workshops of one or more full day's duration: 1 credit per day
- SBE Ennes Workshops: 1 credit per day
- Conference on Chapter of the Air (HAMnet): ½ credit per session (Maximum 6 credits per year)
- Proctoring SBE exams: ½ credit per exam (maximum 10 credits) (Chapter Certification Chairmen do not qualify)
- Game Day Coordination (GDC): ½ credit per game (Maximum 10 credits)
- Active participation in the SBE Roundtable (email discussion group): Determination of credits granted will be based upon hardcopy evidence of such participation.

CATEGORY H

- Attendance at factory schools or in-station schools: 1 credit per each 10 contact hours

CATEGORY I

- SBE University courses: 1 credit per course
- Webinars by SBE: 1 credit per course
- Home study courses may qualify for professional credits as evaluated by the SBE National Certification Committee. Any SBE certified broadcast engineer may request a determination of credit value for a specific course or program if the sponsor has not requested professional credit. Please write to the certification committee for a ruling.

CATEGORY J

- Other activities involved in the broadcast engineering or allied field may qualify for professional credits at the discretion of the SBE National Certification Committee. Please write to the certification committee for a ruling.

Use Category J for activities, such as special achievements, that do not fall under Categories A through I.

OTHER RECERTIFICATION INFORMATION

Recertification for both members of the SBE and non-members will be through the local chapters wherever possible. It will be your responsibility to keep your certification record of professional credits up-to-date by submitting the proper statements or forms attesting to your activities and/or participation. One year before your certification expires; you should review your certification record for shortages of credits. The SBE National Certification Committee reserves the right to ask any individual for verification of any or all of the professional credits claimed.

Application for recertification will be accepted six (6) months prior to expiration of the five-year period as shown on your certificate. If an individual who holds any level of SBE certification elects to recertify by taking the examination, he or she must sit for an exam prior to the expiration of his or her current certification. All applications for recertification by exam must be submitted by the exam application cut-off date.

SUSPENSION OR REVOCATION OF CERTIFICATION

If a certified broadcast engineer does not accumulate the required professional credits in the five-year period, his/her certification shall terminate unless, in the judgment of the SBE National Certification Committee, extenuating circumstances exist and the deficiency can be readily overcome.

Certification can be withdrawn by the SBE National Certification Committee for falsification of credentials, unethical behavior and/or failure to meet the "maintenance of certification" requirements. Such action requires due process by the SBE Board of Directors or designee.

LIFE CERTIFICATION

Certified Professional Broadcast Engineers and senior broadcast engineers who have maintained SBE Certification continuously for twenty years, are 59 ½ years old and current members of SBE may be granted Life Certification if they so request.

All certified who have retired from regular full-time employment and are 59 ½ years old may be granted Life Certification if they so request. If the request is approved, the person will continue in his/her current level of certification for life.

To obtain a Life Certification application, go to <http://www.sbe.org/sections/documents/LifeCertificationapplication2016.pdf> on the SBE website or contact the SBE National Office. There is a \$55 administrative fee per certification to process the application.

SBE CERTIFIED BROADCAST TECHNOLOGIST® (CBT®) Application



I wish to take the CBT exam during the _____ exam session:
Please choose either AM/FM Television

I wish to apply for CBT by License
(Copy of valid FCC Radio Telephone, Amateur Extra license or SBE Certified School letter must accompany application)

CBT Member Fee: \$53 **CBT Non-Member:** \$135

Student fee: deduct \$57 from the non-member fee.



SOCIETY OF BROADCAST ENGINEERS
9102 North Meridian Street, Suite 150
Indianapolis, IN 46260
Phone: (317) 846-9000
Fax: (317) 846-9120

Send application Attn: Certification Director
(Please type or print)

Payment Method: Check Money Order (payable to SBE) American Express MasterCard Visa Total: \$ _____

Credit Card # _____ Exp. Date _____ Security Code^ _____

Name on Card (if different) _____ Billing Address (if different) _____

^ 3 digits in signature strip on back of card to the right of the (partial) card number (for Amex, it is 4 non-raised digits on the front).

Non-Member fee includes optional membership in SBE through March 31 of the following year (See back for more information).
Information provided in this application will be used to determine eligibility.

Mr. Mrs. Ms. (optional)

Last Name	First	MI	(_____) _____ Home Phone
Mailing Address			(_____) _____ Business Phone
City	State	Zip Code	(_____) _____ Fax Number
Place of Employment		Date Employed	Date of Birth (MM/DD/YY) <i>optional</i>
Current Job Title	Type of Facility	E-mail Address	

Description of Duties _____

Total years of responsible Engineering Experience: _____ Radio TV Other (check all that apply)

EXPERIENCE RECORD

List in chronological order, beginning with the most recent, all formal experience in Broadcast Engineering or related employment. Indicate field(s) of specialization under "Position." Please do not limit yourself to the spaces below. The more details you give us about your background the easier it will be for us to correctly judge your application. **ATTACH A BRIEF DESCRIPTION OF JOB DUTIES.**

From Mo Yr	To Mo Yr	Company Name and Location	Position or Title	Immediate Supervisor/Contact #

EDUCATION

Transcript **MUST** accompany application if substituting education for part of the experience requirement, and if applying for Student Membership.

From Mo Yr	To Mo Yr	College, University or Technical Institute	Credits or Yrs Compl	Course or Major	Degree

ADDITIONAL INFORMATION REQUESTED ON REVERSE SIDE

NATIONAL CERTIFICATION COMMITTEE ACTION

Approved Disapproved Date: _____
Signature: _____

ADMISSIONS COMMITTEE ACTION

Approved Disapproved Grade: _____
Signature: _____ Date: _____

SBE CERTIFICATION Application



SOCIETY OF BROADCAST ENGINEERS
 9102 North Meridian Street, Suite 150
 Indianapolis, IN 46260
 Phone: (317) 846-9000
 Fax: (317) 846-9120

I wish to take the following exam(s) during the _____ exam session:

Certified Broadcast Radio Engineer (CBRE) Certified Broadcast Television Engineer (CBTE)
 Certified Audio Engineer (CEA) Certified Video Engineer (CEV)
 MEMBER FEE*: \$67 NON-MEMBER FEE: \$149

I wish to take the following exam(s) during the _____ exam session:

Certified Senior Radio Engineer (CSRE) Certified Senior Television Engineer (CSTE)
 MEMBER FEE*: \$92 NON-MEMBER FEE: \$174

STUDENT FEE: deduct \$57 from non-member fee

Payment Method: Check Money Order (payable to SBE) American Express MasterCard Visa Total: \$ _____

Credit Card # _____ Exp. Date _____ Security Code^ _____

Name on Card (if different) _____ Billing Address (if different) _____

^ 3 digits in signature strip on back of card to the right of the (partial) card number (for Amex, it is 4 non-raised digits on the front).

Non-Member fee includes optional membership in SBE through March 31 of the following year (See back for more information).
Information provided in this application will be used to determine eligibility.

Mr. Mrs. Ms. (optional)

 Last Name First MI (_____) Home Phone

 Mailing Address (_____) Business Phone

 City State Zip Code (_____) Fax Number

 Place of Employment Date Employed Date of Birth (MM/DD/YY) *optional*

 Current Job Title Type of Facility E-mail Address

Description of Duties

Total years of responsible Engineering Experience: _____ Radio TV Other (*check all that apply*)

EXPERIENCE RECORD

List in chronological order, beginning with the most recent, all formal experience in Broadcast Engineering or related employment. Indicate field(s) of specialization under "Position." Please do not limit yourself to the spaces below. The more details you give us about your background the easier it will be for us to correctly judge your application. **ATTACH A BRIEF DESCRIPTION OF JOB DUTIES.**

From Mo	Yr	To Mo	Yr	Company Name and Location	Position or Title	Immediate Supervisor/Contact #

EDUCATION

Transcript **MUST** accompany application if substituting education for part of the experience requirement, and if applying for Student Membership.

From Mo	Yr	To Mo	Yr	College, University or Technical Institute	Credits or Yrs Compl	Course or Major	Degree

ADDITIONAL INFORMATION REQUESTED ON REVERSE SIDE

NATIONAL CERTIFICATION COMMITTEE ACTION

Approved Disapproved Date: _____

Senior Essay Question # _____ 15

Signature: _____

ADMISSIONS COMMITTEE ACTION

Approved Disapproved Grade: _____

Signature: _____ Date: _____

B

REFERENCES

Three required. One **MUST** have supervised your work.

Name	Company Name and Location	Position or Title	Phone

PROFESSIONAL SOCIETIES

Name	Year Joined	Member Grade Attained	Offices Held

OTHER PROFESSIONAL LICENSES OR CERTIFICATES

SPECIAL ACHIEVEMENTS

List awards, patents, books, articles, short courses, seminars related to broadcast-communications technology, etc.

SBE MEMBERSHIP:

YES, I wish to take advantage of the optional SBE membership included in the non-member certification fee. I am already an SBE Member, #_____ Decline SBE Membership

If accepting, select level of membership: Regular Member Associate Member Reinstatement (former #_____)

Student Member – Must provide contact information for faculty advisor, dean, department chair, registrar, etc., for SBE to use to verify your student status: Name _____ Title _____

E-mail _____ Phone (_____) _____

If accepted, please enroll me in Local Chapter #_____ Location: _____

Sponsor’s Name/Who introduced you to SBE? (optional): _____

Have you ever been convicted of a felony? Yes No If yes, describe in full. (Use additional paper if necessary.)

SBE dues are not deductible as a charitable contribution for federal income tax purposes, but may be deductible as a business expense. SBE estimates that 1% of your dues are not deductible because of SBE’s lobbying activities on behalf of its members.

If you are applying for **Certification by Examination**, the Certification Chairman of your local chapter should be notified. The closest SBE Chapter is: _____

Upon certification, please notify my employer: No Yes If yes, complete name, title and address below:

EMPLOYER NAME TITLE COMPANY

ADDRESS CITY STATE ZIP

I have read and understand the requirements of the SBE Certification Program and certify that all information submitted is accurate. If approved for SBE Membership, I agree to abide by the Society of Broadcast Engineers By-Laws and Canons of Ethics (available at www.sbe.org).

Date Signature (in ink)

RETAIN A COPY OF YOUR APPLICATION!

NOTE: If you maintain SBE membership throughout your certification period (5 years), you will receive a 10% discount on recertification.



REFERENCES

You **must** have references from **two** certified Professional or Senior Broadcast Engineers and at least **one** from a person who has supervised your work.

Name	Company Name and Location	Position or Title	Phone

PROFESSIONAL SOCIETIES

Name	Year Joined	Member Grade Attained	Offices Held

OTHER PROFESSIONAL LICENSES OR CERTIFICATES

SPECIAL ACHIEVEMENTS

List awards, patents, books, articles, short courses, seminars related to broadcast-communications technology, etc.

SBE MEMBERSHIP: **YES**, I wish to take advantage of the optional SBE membership included in the non-member certification fee. I am already an SBE Member, # _____ Decline SBE Membership

If accepting, select level of membership: Regular Member Associate Member Reinstatement (former # _____)

If accepted, please enroll me in Local Chapter # _____ Location: _____

Sponsor's Name/Who introduced you to SBE? (optional): _____

Have you ever been convicted of a felony? Yes No If yes, describe in full. *(Use additional paper if necessary.)*

SBE dues are not deductible as a charitable contribution for federal income tax purposes, but may be deductible as a business expense. SBE estimates that 1% of your dues are not deductible because of SBE's lobbying activities on behalf of its members.

If you are applying for **Certification by Examination**, the Certification Chairman of your local chapter should be notified. The closest SBE Chapter is: _____

Upon certification, please notify my employer: No Yes If yes, complete name, title and address below:

EMPLOYER NAME _____ TITLE _____ COMPANY NAME _____

ADDRESS _____ CITY _____ STATE _____ ZIP _____

I have read and understand the requirements of the SBE Certification Program and certify that all information submitted is accurate. If approved for SBE Membership, I agree to abide by the Society of Broadcast Engineers By-Laws and Canons of Ethics (available at www.sbe.org).

_____ Date

_____ Signature (in ink)

RETAIN A COPY OF YOUR APPLICATION!

NOTE: If you maintain SBE membership throughout your certification period (5 years), you will receive a 10% discount on recertification.

D

REFERENCES

Three required. One **MUST** have supervised your work.

Name	Company Name and Location	Position or Title	Phone

PROFESSIONAL SOCIETIES

Name	Year Joined	Member Grade Attained	Offices Held

OTHER PROFESSIONAL LICENSES OR CERTIFICATES

SPECIAL ACHIEVEMENTS

List awards, patents, books, articles, short courses, seminars related to broadcast-communications technology, etc.

SBE MEMBERSHIP:

YES, I wish to take advantage of the optional SBE membership included in the non-member certification fee. I am already an SBE Member, # _____ Decline SBE Membership

If accepting, select level of membership: Regular Member Associate Member Reinstatement (former # _____)
 Student Member – Must provide contact information for faculty advisor, dean, department chair, registrar, etc., for SBE to use to verify your student status: Name _____ Title _____
E-mail _____ Phone (_____) _____

If accepted, please enroll me in Local Chapter # _____ Location: _____

Sponsor's Name/Who introduced you to SBE? (optional): _____

Have you ever been convicted of a felony? Yes No If yes, describe in full. (Use additional paper if necessary.)

SBE dues are not deductible as a charitable contribution for federal income tax purposes, but may be deductible as a business expense. SBE estimates that 1% of your dues are not deductible because of SBE's lobbying activities on behalf of its members.

If you are applying for **Certification by Examination**, the Certification Chairman of your local chapter should be notified. The closest SBE Chapter is: _____

Upon certification, please notify my employer: No Yes If yes, complete name, title and address below:

EMPLOYER NAME _____ TITLE _____ COMPANY _____

ADDRESS _____ CITY _____ STATE _____ ZIP _____

I have read and understand the requirements of the SBE Certification Program and certify that all information submitted is accurate. If approved for SBE Membership, I agree to abide by the Society of Broadcast Engineers By-Laws and Canons of Ethics (available at www.sbe.org).

Date _____

Signature (in ink) _____

RETAIN A COPY OF YOUR APPLICATION!

NOTE: If you maintain SBE membership throughout your certification period (5 years), you will receive a 10% discount on recertification.

SBE CERTIFIED BROADCAST NETWORKING ENGINEER (CBNE) Application



This exam was designed for experienced broadcast professionals having significant experience in IP networks and associated storage and playout technologies employed in radio and television operations.

I wish to take the CBNE exam during the _____ exam session:

MEMBER FEE: \$80 NON-MEMBER FEE: \$162

STUDENT FEE: deduct \$57 from non-member fee.



SOCIETY OF BROADCAST ENGINEERS
 9102 North Meridian Street, Suite 150
 Indianapolis, IN 46260
 Phone: (317) 846-9000
 Fax: (317) 846-9120

Send application Attn: Certification Director

Payment Method: Check Money Order (payable to SBE) American Express MasterCard Visa Total: \$ _____

Credit Card # _____ Exp. Date _____ Security Code^ _____

Name on Card (if different) _____ Billing Address (if different) _____

^ 3 digits in signature strip on back of card to the right of the (partial) card number (for Amex, it is 4 non-raised digits on the front).

Non-Member fee includes optional membership in SBE through March 31 of the following year (See back for more information).
 Information provided in this application will be used to determine eligibility.

Mr. Mrs. Ms. (optional)

Last Name	First	MI	(_____) _____ Home Phone
Mailing Address			(_____) _____ Business Phone
City	State	Zip Code	(_____) _____ Fax Number
Place of Employment	Date Employed		Date of Birth (MM/DD/YY) <i>optional</i>
Current Job Title	Type of Facility	E-mail Address	

MUST ADD A DESCRIPTION OF DUTIES SPECIFICALLY RELATED TO YOUR IT EXPERIENCE AND IT EXPERIENCE IN THE BROADCAST ENGINEERING FIELD. THIS IS USED TO APPROPRIATELY ASSIGN THE ESSAY QUESTIONS.

Total years of responsible Engineering Experience: _____ Radio TV Other (*check all that apply*)

EXPERIENCE RECORD

List in chronological order, beginning with the most recent, all formal experience in Broadcast Engineering or related employment. Indicate field(s) of specialization under "Position." Please do not limit yourself to the spaces below. The more details you give us about your background the easier it will be for us to correctly judge your application.

From Mo Yr	To Mo Yr	Company Name and Location	Position or Title	Immediate Supervisor/Contact #

EDUCATION

Transcript **MUST** accompany application if applying for Student Membership.

From Mo Yr	To Mo Yr	College, University or Technical Institute	Credits or Yrs Compl	Course or Major	Degree

ADDITIONAL INFORMATION REQUESTED ON REVERSE SIDE

NATIONAL CERTIFICATION COMMITTEE ACTION

Approved Disapproved Date: _____
 Senior Essay Question # _____
 Signature: _____

ADMISSIONS COMMITTEE ACTION

Approved Disapproved Grade: _____
 Signature: _____ Date: _____
 Appl Notified: _____ Records: _____

REFERENCES

Three required. One **MUST** have supervised your work.

Name	Company Name and Location	Position or Title	Phone

PROFESSIONAL SOCIETIES

Name	Year Joined	Member Grade Attained	Offices Held

OTHER PROFESSIONAL LICENSES OR CERTIFICATES

SPECIAL ACHIEVEMENTS

List awards, patents, books, articles, short courses, seminars related to broadcast-communications technology, etc.

SBE MEMBERSHIP:

YES, I wish to take advantage of the optional SBE membership included in the non-member certification fee. I am already an SBE Member, # _____ Decline SBE Membership

If accepting, select level of membership: Regular Member Associate Member Reinstatement (former # _____)
 Student Member – Must provide contact information for faculty advisor, dean, department chair, registrar, etc., for SBE to use to verify your student status: Name _____ Title _____
E-mail _____ Phone_(_____) _____

If accepted, please enroll me in Local Chapter # _____ Location: _____

Sponsor's Name/Who introduced you to SBE? (optional): _____

Have you ever been convicted of a felony? Yes No If yes, describe in full. (Use additional paper if necessary.)

SBE dues are not deductible as a charitable contribution for federal income tax purposes, but may be deductible as a business expense. SBE estimates that 1% of your dues are not deductible because of SBE's lobbying activities on behalf of its members.

If you are applying for **Certification by Examination**, the Certification Chairman of your local chapter should be notified. The closest SBE Chapter is: _____

Upon certification, please notify my employer: No Yes If yes, complete name, title and address below:

EMPLOYER NAME _____ TITLE _____ COMPANY _____

ADDRESS _____ CITY _____ STATE _____ ZIP _____

I have read and understand the requirements of the SBE Certification Program and certify that all information submitted is accurate. If approved for SBE Membership, I agree to abide by the Society of Broadcast Engineers By-Laws and Canons of Ethics (available at www.sbe.org).

Date _____

Signature (in ink) _____

RETAIN A COPY OF YOUR APPLICATION!

NOTE: If you maintain SBE membership throughout your certification period (5 years), you will receive a 10% discount on recertification.

SBE SPECIALIST Certification

IMPORTANT: To apply for a specialist certification, you **MUST** be currently SBE Certified at one of the following levels.

- | | | |
|--|---|--|
| I am currently certified as:
(check all that apply) | <input type="checkbox"/> Certified Audio Engineer (CEA)
<input type="checkbox"/> Certified Broadcast Radio Engineer (CBRE)
<input type="checkbox"/> Certified Senior Radio Engineer (CSRE)
<input type="checkbox"/> Certified Professional Broadcast Engineer (CPBE) | <input type="checkbox"/> Certified Video Engineer (CEV)
<input type="checkbox"/> Certified Broadcast Television Engineer (CBTE)
<input type="checkbox"/> Certified Senior Television Engineer (CSTE) |
|--|---|--|

I wish to take the following specialist exam:
 8-VSB Specialist
 AM Directional Specialist
 Digital Radio Broadcast Specialist

I wish to take the exam during the _____ exam session:

Member Fee: \$62
 Non-Member Fee: \$144



SOCIETY OF BROADCAST ENGINEERS

9102 North Meridian Street, Suite 150
 Indianapolis, IN 46260
 Phone: (317) 846-9000
 Fax: (317) 846-9120

Send application Attn: Certification Director

(Please type or print)

Payment Method: Check Money Order (payable to SBE) American Express MasterCard Visa Total: \$ _____

Credit Card # _____ Exp. Date _____ Security Code^ _____

Name on Card (if different) _____ Billing Address (if different) _____

^ 3 digits in signature strip on back of card to the right of the (partial) card number (for Amex, it is 4 non-raised digits on the front).

Non-Member fee includes optional membership in SBE through March 31 of the following year (See back for more information).
Information provided in this application will be used to determine eligibility.

Last Name _____	First _____	MI _____	(_____) _____ Home Phone
Mailing Address _____			(_____) _____ Business Phone
City _____	State _____	Zip Code _____	(_____) _____ Fax Number
Place of Employment _____	Date Employed _____	Date of Birth (MM/DD/YY) <i>optional</i> _____	
Current Job Title _____	Type of Facility _____	E-mail Address _____	

Description of Duties _____

EXPERIENCE RECORD

List in chronological order, beginning with the most recent, all formal experience in Broadcast Engineering or related employment for the last five years. Indicate field(s) of specialization under "Position." Please do not limit yourself to the spaces below. The more details you give us about your background the easier it will be for us to correctly judge your application. **ATTACH A BRIEF DESCRIPTION OF JOB DUTIES.**

From Mo	Yr	To Mo	Yr	Company Name and Location	Position or Title	Immediate Supervisor

ADDITIONAL INFORMATION REQUESTED ON REVERSE SIDE

NATIONAL CERTIFICATION COMMITTEE ACTION

Approved Disapproved Date: _____

Comment: _____

Senior Essay Question # _____

Signature: _____

ADMISSIONS COMMITTEE ACTION

Approved Disapproved Grade: _____

Comment: _____

Signature: _____ Date: _____

Appl Notified: _____ Records: _____

Non-Member fee includes optional membership in SBE through March 31 of the following year.

SBE MEMBERSHIP: YES, I wish to take advantage of the optional SBE membership included in the non-member certification fee. I am already an SBE Member, # _____ Decline SBE Membership

If accepting, select level of membership:

Regular Member Associate Member Reinstatement (former # _____)

If accepted, please enroll me in Local Chapter # _____ Location: _____

Sponsor's Name/Who introduced you to SBE? (optional): _____

Have you ever been convicted of a felony? Yes No If yes, describe in full. (*Use additional paper if necessary.*)

SBE dues are not deductible as a charitable contribution for federal income tax purposes, but may be deductible as a business expense.
SBE estimates that 1% of your dues are not deductible because of SBE's lobbying activities on behalf of its members.

The Certification Chairman of your local chapter will be notified. The closest SBE Chapter is: _____

Upon certification, please notify my employer: No Yes If yes, complete name, title and address below:

Company	Employer Name	Title	
Address	City	State	Zip

I have read and understand the requirements of the SBE Certification Program and certify that all information submitted is accurate. If approved for SBE Membership, I agree to abide by the Society of Broadcast Engineers By-Laws and Canons of Ethics (available at www.sbe.org).

Date

Signature (in ink)

RETAIN A COPY OF YOUR APPLICATION!

ORDER FORM

SBE Television Operator's Certification Handbook, 7th Edition

The SBE National Certification committee has developed a training handbook targeted for the entry-level non-technical pool of applicants that are filling operator positions in TV stations.

The cost of this handbook includes the cost of a proctored exam. The exam consists of 50 multiple-choice questions based entirely on the material in the handbook

DISCOUNTS: 5% off cover price for the purchase of 5-9 copies; 10% off cover price for the purchase of 10 or more copies

SBE Television Operator's Certification Handbook, 7th Edition \$54 S/H: \$4

SBE Certification Handbook for Radio Operators, 2nd Edition

The SBE National Certification committee has developed a training handbook targeted for the entry-level non-technical pool of applicants that are filling board positions in radio stations.

The cost of this handbook includes the cost of a proctored exam. The exam consists of 50 multiple-choice questions based entirely on the material in the handbook

DISCOUNTS: 5% off cover price for the purchase of 5-9 copies; 10% off cover price for the purchase of 10 or more copies

SBE Certification Handbook for Radio Operators, 2nd Edition \$54 S/H: \$4



The SBE has created sample test software called **CertPreview**, to provide a sampling of what to expect on the actual exams. Each SBE CertPreview contains approximately 100+ questions similar to those that appear on the actual exam.



The SBE CertPreview is available two ways. You may purchase a CD that you can then load onto your machine, or you may purchase an instant download on the SBE website. Please note that whatever machine you install the program on you will have to use to study. The SBE CertPreview software is machine specific.

SBE CertPreview software download \$32 available at www.sbe.org

SBE CertPreview software CD version \$36 per exam S/H \$3 per CD (multiple exams can be purchased on one CD)

CBT TV: ___ CBT Radio ___ CBNT: ___ CEA: ___ CEV: ___ CBRE: ___ CBTE: ___ CBNE: ___ CSRE: ___ CSTE: ___ 8-VSB: ___ AMD: ___ DRB: ___

SBE PINS SBE lapel pins are used to display SBE Membership or earned SBE Certifications. Please specify quantity.

*SBE 50th Membership Pin  ___ *SBE Membership Pin ___ *Certification Pin  ___
CRO: ___ CTO: ___ CBNT: ___ CBT: ___ CEA: ___ CEV: ___ CBRE: ___ CBTE: ___ CBNE: ___ CSRE: ___ CSTE: ___ CPBE: ___

*You must be a current SBE Member in order to purchase a member pin.

*You must be currently SBE Certified at the level of pin being purchased.

SBE Pins: \$14 per pin SBE 50th Pin: \$14 S/H: \$1 per pin (minimum shipping/handling charge: \$3)

ITEM	PRICE USD*	\$/H**	QTY	TOTAL
SBE Television Operators certification Handbook, 7 th Edition	\$54	\$4		\$
SBE Certification Handbook for Radio Operators, 2 nd Edition	\$54	\$4		\$
SBE CertPreview (please mark tests required above)	\$36	\$3		\$
SBE Pins (please mark pins required above)	\$14	\$1**		\$
GRAND TOTAL				\$

*Prices subject to change without notice. All items are subject to availability.

**Shipping is calculated per item (\$3 minimum charge per order). All orders being delivered to a U.S. address are shipped via ground delivery service. Please allow approximately two (2) weeks for processing and shipping within the continental U.S. For express shipping or shipping outside the U.S., please contact SBE at sbestore@sbe.org or call (317) 846-9000, M-F between 8:30 a.m. and 4 p.m. U.S. ET

SHIP TO/BILL TO: (Please print or type)

Name _____

Mailing Address _____

City _____ State _____ Zip _____

Phone Number _____ Email Address _____

PAYMENT INFORMATION: VISA MasterCard American Express Check Money Order

Card # _____ Ex. Date _____ Security Code** _____

**Last 3 digits in signature strip on back of card (AMEX, 4 non-raised digits on front)

Cardholder Name and Signature _____

SBE MEMBERSHIP APPLICATION

SOCIETY OF BROADCAST ENGINEERS

The Association for Broadcast and Multimedia Professionals
 9102 North Meridian Street, Suite 150
 Indianapolis, IN 46260
 Phone: (317) 846-9000 Fax: (317) 846-9120



Application for:

- Regular Member \$82.00
- Associate Member \$82.00
- Student Member * \$25.00
- Reinstatement \$82.00
(former Member # _____)
- Change in grade to Member \$82.00
(for student/youth members only)

(Please type or print)

Payment Method: <input type="checkbox"/> Check <input type="checkbox"/> Money Order (payable to SBE) <input type="checkbox"/> American Express <input type="checkbox"/> MasterCard <input type="checkbox"/> Visa		Total: \$ _____
Credit Card # _____	Exp. Date _____	Security Code^ _____
Name on Card (if different) _____		Billing Address (if different) _____
^ 3 digits in signature strip on back of card to the right of the (partial) card number (for Amex, it is 4 non-raised digits on the front).		

Information provided in this application will be used to determine membership eligibility.

_____ (_____) _____
 Last Name First MI Primary Phone

_____ (_____) _____
 Mailing Address Secondary Phone

_____ (_____) _____
 City State Zip Code Fax Number

The above mailing address is: Home Business

_____ _____ _____
 Place of Employment Date Employed Date of Birth (MM/DD/YY) *optional*

_____ _____ _____
 Current Job Title Type of Facility E-mail Address

Description of Duties _____

Total years of responsible Engineering experience: _____ Radio TV Other (check all that apply)

If accepted, please enroll me in Local Chapter # _____ Location: _____

SBE Certification # _____ (if applicable)

Sponsor's Name/Who introduced you to SBE? (optional): _____

EXPERIENCE RECORD

List in chronological order, beginning with the most recent, all formal experience in Broadcast Engineering or related employment. Indicate field(s) of specialization under "Position." Please do not limit yourself to the spaces below.

From Mo Yr	To Mo Yr	Company Name and Location	Position or Title	Type of Facility

ADDITIONAL INFORMATION REQUESTED ON REVERSE SIDE

MEMBERSHIP COMMITTEE ACTION

Approve Disapprove

Comment: _____

Signature: _____

Grade: _____

Records: _____

Appl Notified: _____

EDUCATION

From Mo Yr	To Mo Yr	College, University or Technical Institute	Credits or Yrs Compl	Course or Major	Degree

*** If applying for student member status (post-secondary school), you must complete the following:**

Program/major currently enrolled in: _____

You are a (check one): Full-time Student Part-time Student

Faculty advisor, dean, department chair, registrar, etc., SBE may contact to verify your student status:

Name

Title

E-mail

(_____) _____
Phone

REFERENCES

List two references who are familiar with your work.

Name	Company Name and Location	Position or Title	Phone

OTHER PROFESSIONAL LICENSES OR CERTIFICATES

SPECIAL ACHIEVEMENTS

List awards, patents, books, articles, short courses, seminars related to broadcast-communications technology, etc.

Have you ever been convicted of a felony? Yes No If yes, describe in full. *(Use additional paper if necessary.)*

If approved, I agree to abide by the Society of Broadcast Engineers By-Laws and Canons of Ethics (available at www.sbe.org).

Date

Signature

**SBE dues are not deductible as a charitable contribution for federal income tax purposes, but may be deductible as a business expense.
SBE estimates that 1% of your dues are not deductible because of SBE's lobbying activities on behalf of its members.**



Society of Broadcast Engineers

9102 N. Meridian St., Suite 150
Indianapolis, IN 46260

SBE PROGRAM OF CERTIFICATION & MEMBERSHIP

HINTS FOR COMPLETING APPLICATIONS

These instructions have been prepared to assist you in completing the applications for membership and/or certification by the Society of Broadcast Engineers. Please read the entire instructions and general information sheets as well as the Program of Certification before completing the application form.

Remember, the documentation you submit will be the basis upon which the national membership and/or certification committees will make their evaluation of your qualifications.

CERTIFICATION APPLICATIONS (Forms A, B, C, D, F and Specialist)

- **There is no need to complete the membership application.** Your appropriate certification application will also serve as your application for membership.
- Notify the persons you have listed as professional references.
- If a college credit is to be used as part of the experience requirement, an official transcript is required. Transcript fees must be paid by the applicant.
- If you are applying for certification as a Certified Broadcast Technologist under the “qualifying experience” provision, you must include a copy of the required license or verification card. (Do not send the original license.)

MEMBERSHIP APPLICATION

- **If you wish to become an SBE member WITHOUT applying for SBE certification, complete ONLY the membership application.** If, once you have read through this booklet, you wish to apply for certification, you need ONLY complete the appropriate certification

applications (Forms A, B, C, D, F and Specialist), which will also serve as your application for membership.

- If applying for Student Membership, a copy of your most recent transcript is required or contact information from you college advisor or other academic representative to verify your student status.

APPLICANT CHECKLIST

- ✓ Application completed (both sides)
 - Did you sign the application?
 - Did you check the appropriate membership status?
 - Did you attach a brief description of duties?
 - If applying as a student, did you include a copy of your student ID, transcript or contact information for a representative from your school?
 - Did you make a copy of the application for your records?
- ✓ If applying for CERTIFIED BROADCAST TECHNOLOGIST by License, did you include a copy of the front and back of your license?
- ✓ Did you include your non-refundable application fee (must be in U.S. dollars)?
 - Signed check made payable to “**SBE**” or
 - Money order made payable to “**SBE**” or
 - American Express, MasterCard or Visa payment (be sure to include expiration date, security code and billing address on application)
- ✓ Mail application and fee to:
Society of Broadcast Engineers
9102 N. Meridian St. Suite 150
Indianapolis, IN 46260