

SIGNIFICANT POINTS

- Keen competition is expected for many jobs, particularly in large metropolitan areas, due to the large number of jobseekers attracted by the glamour of this industry.
- Job prospects will be best for applicants with a college degree in broadcasting or a related field, as well as relevant work experience.
- Many entry-level positions are at smaller broadcast stations; consequently, workers often must change employers, and sometimes relocate, to advance.

Nature of the Industry

The broadcasting industry consists of radio and television stations and networks that create content or acquire the right to broadcast taped television and radio programs. Networks transmit their signals from broadcasting studios via satellite signals to local stations or cable distributors. Broadcast signals then travel over cable television lines, satellite distribution systems, or the airwaves from a station's transmission tower to the antennas of televisions and radios. Anyone in the signal area with a radio or television can receive the programming. Most Americans receive their television broadcasts through cable and other pay television providers. Although cable television stations and networks are included in this statement, cable and other pay television distributors are classified in the telecommunications industry. (See the statement on telecommunications elsewhere in the *Career Guide*.)

Radio and television stations and networks broadcast a variety of programs, such as national and local news, talk shows, music programs, movies, other entertainment, and advertisements. Stations produce some of these programs, most notably news programs, in their own studios; however, much of the programming is produced outside the broadcasting industry. Establishments that produce filmed or taped programming for radio and television stations and networks—but do not broadcast the programming—are in the motion picture industry. Many television networks own production companies that produce their many shows. (A statement on the motion picture and video industry appears elsewhere in the *Career Guide*.)

Cable and other program distributors compensate local television stations and cable networks for rebroadcast rights. For popular cable networks and local television stations, they pay a fee per subscriber and/or agree to broadcast a less popular channel owned by the same network. Revenue for radio and television stations and networks also comes from the sale of advertising time. The rates paid by advertisers depend on the size and characteristics (age, gender, median income) of a program's audience. Educational and noncommercial stations generate revenue primarily from donations by individuals, foundations, government, and corporations. These stations generally are owned and managed by public broadcasting organizations, religious institutions, or school systems.

Changes in government regulation and technology have affected the broadcast industry. The Telecommunications Act of 1996 relaxed ownership restrictions, an action that has had a tremendous impact on the industry. Instead of owning only one radio station per market, companies now can purchase up to eight radio stations in a single large market. These changes have led to a large-scale consolidation of radio stations. In some areas, five FM and three AM radio stations are owned by the same company and share the same offices. The ownership of commercial radio stations is increasingly concentrated. In television, owners are permitted two stations in larger markets and are restricted in the total number of stations nationwide (in terms of percent of all viewers).

The U.S. Federal Communications Commission (FCC) is a proponent of digital television (DTV), a technology that uses digital signals to transmit television programs. Digital signals consist of pieces of simple electronic code that can carry more information than can conventional analog signals. This allows for the transmission of better quality sound and higher resolution pictures, often referred to as high-definition television (HDTV). FCC regulations require all stations to broadcast digital signals as well as conventional analog signals. The current goal of the FCC is to have all stations stop broadcasting analog signals by 2007. Thereafter, any viewers using an analog TV and over-the-air signals will need a converter box to change the signal from digital to analog. Nearly half of all television stations are currently broadcasting digital HDTV signals in response to FCC regulations. Many digital cable systems and satellite television providers already broadcast all their channels digitally, with some channels in high definition.

The transition to HDTV broadcasting has also accelerated the conversion of other aspects of television and radio production from analog to digital. Many stations have replaced specialized hardware with less specialized computers equipped with software that performs the same functions. Stations may use digital cameras, edit with computers, and store video on computer servers. Many major network shows now use HDTV cameras and editing equipment.

The transition to digital broadcasting also is occurring in radio. Most stations already store music, edit clips, and broadcast their analog signals with digital equipment. Satellite radio ser-

VICES, which offer 100 channels of digital sound, operate on a subscription basis like pay television services. To compete, radio stations are beginning to embed a digital signal into their analog signals. With a specially equipped radio, these digital services offer better quality sound and display some limited text, such as the title of the song and the artist.

Working Conditions

Most employees in this industry work in clean, comfortable surroundings in broadcast stations and studios. Some employees work in the production of shows and broadcasting while other employees work in advertising, sales, promotions, and marketing.

Television news teams made up of reporters, camera operators, and technicians travel in electronic news-gathering trucks to various locations to cover news stories. Although such location work is exciting, some assignments, such as reporting on military conflicts or natural disasters, may present danger. These assignments may also require outdoor work under adverse weather conditions.

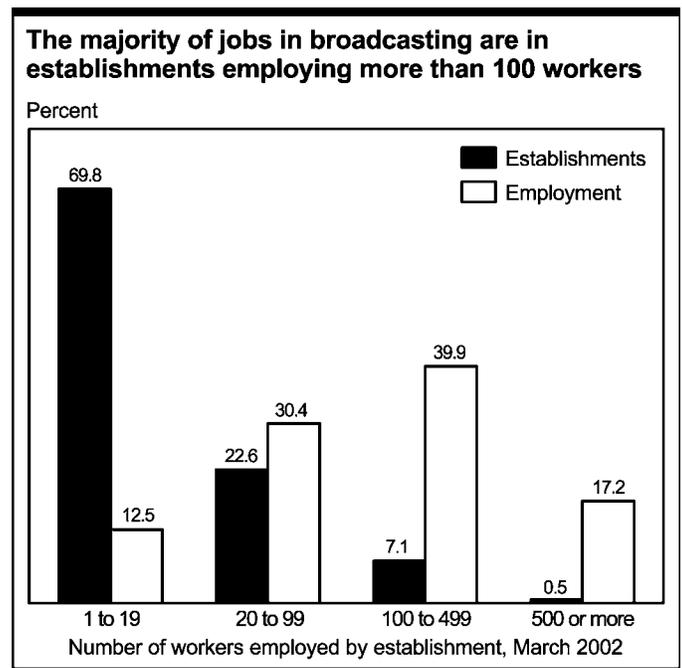
Camera operators working on such news teams must have the physical stamina to carry and set up their equipment. Broadcast technicians on electronic news-gathering trucks must ensure that the mobile unit's antenna is correctly positioned to prevent electrocution from powerlines. Field service engineers work on outdoor transmitting equipment and may have to climb poles or antenna towers; their work can take place under a variety of weather conditions. Broadcast technicians who maintain and set up equipment may have to do heavy lifting. Technological changes have enabled camera operators to also fulfill the tasks of broadcast technicians, operating the transmission and editing equipment on a remote broadcasting truck. News operations, programming, and engineering employees work under a great deal of pressure in order to meet deadlines. As a result, these workers are likely to experience varied or erratic work schedules, often working on early morning or late evening news programs.

Sales workers may face stress meeting sales goals. Aside from sometimes erratic work schedules, management and administrative workers work in an environment similar to any other office.

For many people, the excitement of working in broadcasting compensates for the demanding nature of the jobs. Although this industry is noted for its high pressure and long hours, the work is generally not hazardous. Most jobs were in large establishments; about 57 percent of all jobs were in establishments with at least 100 employees in 2002 (chart 1). Broadcasting establishments are found throughout the country, but jobs in larger stations are concentrated in large cities.

Occupations in the Industry

Occupations at large broadcast stations and networks fall into five general categories: Program production, newsrelated, technical, sales, and general administration. At small stations, jobs are less specialized, and employees often perform several functions. Although on-camera or on-air positions are the most familiar occupations in broadcasting, the majority of employment opportunities are behind the scenes (table 1).



Program production occupations. Most television programs are produced by the motion picture and video industry; actors, directors, and producers working on these prerecorded programs are not employed by the broadcasting industry. Program production occupations at television and radio stations create programs such as news, talk, and music shows.

Assistant producers provide clerical support and background research; assist with the preparation of musical, written, and visual materials; and time the production to make sure it does not run over schedule. They also may operate cameras and other audio and video equipment.

Video editors select and assemble pretaped video to create a finished program, applying sound and special effects as necessary. Conventional editing requires assembling pieces of videotape in a linear fashion to create a finished product. The editor first assembles the beginning of the program, then works sequentially towards the end. Newer computerized editing allows an editor to electronically cut and paste video segments. This technique is known as nonlinear editing because the editor is no longer restricted to working sequentially; a segment may be moved at any time to any location in the program.

Producers plan and develop live or taped productions, determining how the show will look and sound. They select the script, talent, sets, props, lighting, and other production elements. They also coordinate the activities of on-air personalities, production staff, and other personnel. *Web site or Internet producers*, a relatively new occupation in the broadcast industry, plan and develop Internet sites that provide news updates, program schedules, and information about popular shows. The producer decides what will appear on the site and is responsible for its overall design and maintenance.

Announcers read news items and provide other information, such as program schedules and station breaks for commercials or public service information. Many radio announcers are referred to as disc jockeys, playing recorded music on radio sta-

tions. They may take requests from listeners; interview guests; and comment on the music, weather, or traffic. Most stations now have placed all of their advertisements, sound bites, and music on a computer, which is used to select and play or edit the items. Technological advances have simplified the monitoring and adjusting of the transmitter, leaving disc jockeys responsible for all of the tasks associated with keeping a station on the air. Traditional tapes and CDs are used only as backups in case of a computer failure. Announcers and disc jockeys need a good speaking voice; the latter also need a significant knowledge of music.

Program directors are in charge of on-air programming in radio stations. Program directors decide what type of music will be played, supervise on-air personnel, and often select the specific songs and the order in which they will be played. Considerable experience, usually as a disc jockey, is required, as well as a thorough knowledge of music.

News-related occupations. News, weather, and sports reports are important to many television stations because they attract a large audience and account for a large proportion of revenue. Many radio stations depend on up-to-the-minute news for a major share of their programming. Program production occupations, such as producers and announcers, also work on the production of news programs.

Reporters gather information from various sources, analyze and prepare news stories, and report on the air. *Correspondents* report on news occurring in U.S. and foreign cities in which they are stationed. *Newswriters* write and edit the news stories from information collected by reporters. Newswriters may advance to positions as reporters or correspondents.

Broadcast news analysts, also known as news anchors, analyze, interpret, and broadcast news received from various sources. News anchors present news stories and introduce videotaped news or live transmissions from on-the-scene reporters. Newscasters at large stations may specialize in a particular field. Weathercasters, also called weather reporters, report current and forecasted weather conditions. They gather information from national satellite weather services, wire services, and local and regional weather bureaus. Some weathercasters are trained *atmospheric scientists* and can develop their own weather forecasts. Sportscasters are responsible for reporting sporting events. They usually select, write, and deliver the sports news for each newscast.

Assistant news directors supervise the newsroom; they coordinate wire service reports, tape or film inserts, and stories from individual newswriters and reporters. Assignment editors assign stories to news teams, sending the teams on location if necessary.

News directors have overall responsibility for the news team of reporters, writers, editors, and newscasters, as well as studio and mobile unit production crews. This senior administrative position entails responsibilities that include determining what events to cover, and how and when they will be presented in a news broadcast.

Technical occupations. Employees in these occupations operate and maintain the electronic equipment that records and trans-

mits radio or television programs. The titles of some of these occupations use the terms “engineer,” “technician,” and “operator” interchangeably.

Radio operators manage equipment that regulates the signal strength, clarity, and range of sounds and colors of broadcasts. They also monitor and log outgoing signals and operate transmitters. *Audio and video equipment technicians*

Table 1. Employment of wage and salary workers in broadcasting by occupation, 2002 and projected change, 2002-12
(Employment in thousands)

Occupation	Employment, 2002		Percent change, 2002-12
	Number	Percent	
All occupations	334	100.0	8.5
Management, business, and financial occupations			
Top executives	10	3.1	10.3
Advertising, marketing, promotions, public relations, and sales managers	9	2.7	15.3
Operations specialties managers	6	1.8	15.6
Business operations specialists	4	1.1	25.6
Professional and related occupations			
Computer specialists	7	2.1	32.8
Engineers	6	1.9	7.2
Drafters, engineering, and mapping technicians	3	1.0	18.5
Art and design occupations	4	1.3	11.6
Producers and directors	19	5.6	0.6
Announcers	40	12.0	-17.9
News analysts, reporters and correspondents	18	5.3	6.8
Editors	4	1.3	-1.4
Audio and video equipment technicians ...	5	1.5	12.1
Broadcast technicians	22	6.7	7.1
Photographers	4	1.3	-4.7
Camera operators, television, video, and motion picture	10	2.9	1.1
Sales and related occupations			
Advertising sales agents	29	8.6	6.3
Telemarketers	4	1.3	1.0
Office and administrative support occupations			
First-line supervisors/managers of office and administrative support workers	4	1.2	4.9
Bookkeeping, accounting, and auditing clerks	4	1.2	-3.2
Customer service representatives	17	5.0	39.7
Material recording, scheduling, dispatching, and distributing occupations	6	1.7	17.8
Secretaries and administrative assistants	9	2.8	-4.5
Office clerks, general	7	2.1	-3.2
Installation, maintenance, and repair occupations			
Telecommunications equipment installers and repairers, except line installers	5	1.5	30.1
Telecommunications line installers and repairers	12	3.6	41.5

NOTE: May not add to totals due to omission of occupations with small employment.

operate equipment to regulate the volume, sound quality, brightness, contrast, and visual quality of a broadcast. *Broadcast technicians* set up and maintain electronic broadcasting equipment. Their work can extend outside the studio, as when they set up portable transmitting equipment or maintain stationary towers.

Television and video camera operators set up and operate studio cameras, which are used in the television studio, and electronic news gathering cameras, which are mobile and used outside the studio when a news team is pursuing a story at another location. Camera operators need training in video, as well as some experience in television production.

Master control engineers ensure that all of the radio or television station's scheduled program elements, such as on-location feeds, prerecorded segments, and commercials, are smoothly transmitted. They also are responsible for ensuring that transmissions meet FCC requirements.

Technical directors direct the studio and control room technical staff during the production of a program. They need a thorough understanding of both the production and technical aspects of broadcasting, acquired as a lighting director or camera operator, or as another type of broadcast worker.

Network and computer systems administrators and *network systems and data communications analysts* design, set up, and maintain systems of computer servers. These servers store recorded programs, advertisements, and newsclips.

Assistant chief engineers oversee the day-to-day technical operations of the station. *Chief engineers* or *directors of engineering* are responsible for all of the station's technical facilities and services. These workers need a bachelors' degree in electrical engineering, technical training in broadcast engineering, and years of broadcast engineering experience acquired in less responsible positions.

Sales, promotions, and marketing occupations. Most workers in this category are *advertising sales agents*, sometimes known as *account executives*. They sell advertising time to sponsors, advertising agencies, and other buyers. Sales representatives must have a thorough knowledge of the size and characteristics of their network's or station's audience, including income levels, gender, age, and consumption patterns. Sales work has expanded beyond the traditional role of simply selling advertising to a wide range of marketing efforts. Stations earn additional revenue through broadcasting from a business, such as a dance club. Businesses also sponsor concerts or other promotions that are organized by a station. In return for sponsorship, the business may set up a booth or post large signs.

Continuity directors schedule and produce commercials. Continuity directors carefully schedule commercials, taking into account both the timeslot in which a commercial is to be played, as well as competing advertisements. For example, two car dealership advertisements should not be played during the same commercial break. Continuity directors also create and produce advertisements for clients who do not produce their own.

Large stations and networks generally have several workers who spend all of their time handling sales. *Sales worker supervisors*, who may handle a few large accounts personally, supervise these workers. In small stations, part-time sales personnel

or announcers often handle sales responsibilities during hours they are not on the air.

General administration. *General managers* or *station managers* coordinate all radio and television station activities. In very small stations, the manager and a bookkeeper may handle all the accounting, purchasing, hiring, and other routine office work. In larger stations, the general administrative staff includes business managers, accountants, lawyers, personnel workers, public relations workers, and others. They are assisted by office and administrative support workers such as secretaries, word processors, typists, and financial clerks.

Training and Advancement

Professional, management, and sales occupations generally require a college degree; technical occupations often do not. It is easier to obtain employment and gain promotions with a degree, especially in larger, more competitive markets. Advanced schooling is generally required for supervisory positions—including technical occupations—having greater responsibility and higher salaries.

Entry-level jobs in news or program production increasingly require a college degree and some broadcast experience. Approximately 450 colleges offer formal programs in journalism and mass communications, including radio and television broadcasting. Some community colleges offer 2-year programs in broadcasting. Broadcast trade schools offer courses that last 6 months to a year and teach radio and television announcing, writing, and production.

Individuals pursuing a career in broadcasting often gain initial experience through work at college radio and television stations or through internships at professional stations. Although these positions are usually unpaid, they sometimes provide college credit or tuition. More importantly, they provide hands-on experience and a competitive edge when applying for jobs. In this highly competitive industry, broadcasters are less willing to provide on-the-job training, and instead seek candidates who can perform the job immediately.

Some technical positions require only a high school diploma. However, many broadcast stations seek individuals with training in broadcast technology, electronics, or engineering from a technical school, community college, or 4-year college. An understanding of computer networks and software will become more important as the industry introduces more digital technology. Supervisory technical positions and jobs in large stations generally require a college degree.

The Society of Broadcast Engineers (SBE) issues certification to technicians who pass a written examination. Several classes of certification are available, requiring increasing levels of experience and knowledge for eligibility. The Telecommunications Act of 1996 mandated that the FCC drop its licensing requirements for transmitter maintenance; SBE certification has filled the void left by the elimination of this license.

Employees in the radio and television broadcasting industry often find their first job in broadcast stations serving smaller markets. Competition for positions in large metropolitan areas is stronger, and these stations usually seek highly experienced per-

sonnel. Because many radio and television stations are small, workers in this industry often must change employers to advance. Relocation to other parts of the country frequently is necessary.

Earnings

Weekly earnings of nonsupervisory workers in broadcasting averaged \$642 in 2002, higher than the average of \$506 for all private industry. As a common rule, earnings of broadcast personnel are highest in large metropolitan areas. Earnings in selected occupations in broadcasting for 2002 appear in table 2.

Table 2. Median hourly earnings of the largest occupations in broadcasting, 2002

Occupation	Broadcasting, except Internet	All industries
General and operations managers	\$37.99	\$32.80
Telecommunications equipment installers and repairers, except line installers	20.13	22.78
Telecommunications line installers and repairers	18.46	19.06
Advertising sales agents	17.97	18.11
Executive secretaries and administrative assistants	16.51	16.06
News analysts, reporters and correspondents	16.05	14.67
Customer service representatives	13.86	12.62
Camera operators, television, video, and motion picture	12.66	15.73
Broadcast technicians	11.86	13.35
Office clerks, general	11.31	10.71
Announcers	9.87	9.91

The principal unions representing employees in broadcasting are the National Association of Broadcast Employees and Technicians (NABET), the International Brotherhood of Electrical Workers (IBEW), the International Alliance of Theatrical Stage Employees (IATSE), and the American Federation of Television and Radio Artists (AFTRA).

Outlook

Employment in broadcasting is expected to increase almost 9 percent over the 2002-12 period, more slowly than the 16 percent projected for all industries combined. Factors contributing to the relatively slow rate of growth include industry consolidation, introduction of new technologies, and competition from other media outlets. Keen competition is expected for many jobs, particularly in large metropolitan areas, due to the large number of jobseekers attracted by the glamour of this industry. Job prospects will be best for applicants with a college degree in broadcasting, journalism, or a related field, as well as relevant work experience.

Consolidation of individual broadcast stations into large networks, especially in radio, has increased due to relaxed ownership regulations. This trend will continue to limit employment growth as networks use workers more efficiently. For example, a network can run eight radio stations from one office, producing news programming at one station and then using the programming for broadcast from other stations, thus eliminating the need for multiple news staffs. Similarly, technical workers, upper

level management, and marketing and advertising sales workers are pooled to work for several stations simultaneously. In the consolidation of the radio industry, several major companies have recently purchased many stations nationwide. These companies plan to achieve cost savings through consolidation and economies of scale, limiting employment growth.

The introduction of new technology also is slowing employment growth. Conventional broadcast equipment used to be relatively specialized; each piece of equipment served a separate function and required an operator with specialized knowledge. Newer, computerized equipment often combines the functions of several older pieces of equipment and does not require specialized knowledge for operation. This reduces the need for certain types of workers, including those responsible for editing, recording, and creating graphics. In addition, increased use of remote monitoring equipment allows technical workers in one location to operate and monitor transmissions at a remote station.

Job growth also is being constrained by the use of radio and television programming created by services outside the broadcasting industry. These establishments provide prepared programming, including music, news, weather, sports, and professional announcer services. The services can easily be accessed through satellite connections and reduce the need for program production and news staff at radio and television stations. Broadcasters also anticipate increased competition from Internet media outlets, such as video-on-demand services.

Radio broadcasters expect continued growth in revenues as national media companies, with cable stations, broadcast networks, and radio networks, use their combined marketing power to include radio advertising packages with many marketing deals. The new national scope of radio networks allows radio to more effectively sell advertising to large national advertisers, to better compete with television networks. The major threats to the radio industry, especially smaller, marginal stations, are from car CD (compact disk) players and from satellite radio, which functions like cable television with subscribers paying a monthly fee.

Sources of Additional Information

For a list of schools with accredited programs in broadcast journalism, send a request to:

- Accrediting Council on Education in Journalism and Mass Communications, University of Kansas, School of Journalism, Stauffer-Flint Hall, Lawrence, KS 66045-7575. Internet: <http://www.ku.edu/~acejmc>

For career information and links to employment resources, contact:

- National Association of Broadcast Employees and Technicians, Communications Workers of America, 501 Third St. NW., Washington, DC 20001.

For information on broadcasting education and scholarship resources, contact:

- National Association of Broadcasters, Career Center, 1771 N St. NW., Washington, DC 20036. Internet: <http://www.nab.org>

For descriptions of occupations in the cable industry and links to employment resources, contact:

- National Cable and Telecommunications Association, 1724 Massachusetts Ave. NW., Washington, DC 20036.

Information on the following occupations may be found in the 2004-05 *Occupational Outlook Handbook*:

- Actors, producers, and directors
- Advertising, marketing, promotions, public relations, and sales managers
- Announcers
- Broadcast and sound engineering technicians and radio operators
- News analysts, reporters, and correspondents
- Television, video, and motion picture camera operators and editors
- Writers and editors