



Tenth Edition

MODERN RADIO & AUDIO PRODUCTION

Programming and Performance

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Fritz Messere
Philip Benoit
Lewis B. O'Donnell

Modern Radio and Audio Production

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Programming and Performance

TENTH EDITION

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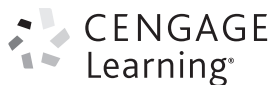
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**Modern Radio and Audio Production:
Programming and Performance,
Tenth Edition**

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Philip Benoit, Lewis O'Donnell**

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Preface

Welcome to the new Golden Age of Radio.

You're learning about a field that straddles "traditional" broadcasting and the fascinating world of digital media. You're preparing to enter a field in which you can work in a large organization with a rich and distinguished legacy, or strike out on your own and blaze your own trail through the world of digital entrepreneurship.

Or do both at the same time.

It will come as no surprise that radio has evolved to an astonishing degree since the first edition of this book. Every two or three years since the introduction of *Modern Radio Production* we have ensured that the work is, indeed, modern, while at the same time not neglecting the legacy foundations that are still very much a part of the industry.

In this tenth edition of *Modern Radio and Audio Production*, we have engineered the most sweeping update in the book's history. Among the major changes:

- We have greatly expanded the coverage of audio—sound recording and manipulation for media not limited to radio. The purpose is to make the book more adaptable for classes that focus on using and shaping sound for television, film, and Internet productions. In addition to ramping up the coverage, we have reordered the table of contents so that instructors and students can more easily isolate and access the audio sections of the book.
- In response to reader requests, we have added a great deal of instruction on writing, including a new chapter titled "Writing for the Ear." The goal: to equip you to use radio and audio as a true communication medium—a tool that inspires, entertains, and informs.
- To meet the needs of those who want to perform advanced audio and radio functions, we have expanded our sections on recording music and producing sports, news, and commercials.
- We have created a comprehensive section on The Business of Radio, consisting of five chapters covering the new digital infrastructure of radio, the growth of in-car radio and the Industry's battle for dominance on the car's dashboard, and the entrepreneur's role in radio. The section concludes with another reader request: a stand-alone chapter on ethics—a vital topic in an era in which communication can go global and viral in an instant.

Although much of "traditional" radio remains the same exciting medium that has captivated audiences for decades, there is an entirely new angle to the business. Radio's new Golden Age has

grown out of the expansion of digital technology, which has lowered the barriers to entry into radio production and, to a certain extent, broadcasting.

Today, anyone who has access to a reasonably up-to-date computer and some moderately priced—or even free—software can produce radio. You can record your own music, edit the music, produce commercials, create podcasts, all on your computer, or even on your tablet device and in some cases on your smartphone.

Those are the new horizons open to today’s radio producer.

At the same time, radio continues to be “the magic medium” that is the listener’s lifestyle companion, the friendly voice, the music that captures our moods, and the voice of news that reaches us in the car or at home when the electricity’s out.

This tenth edition of *Modern Radio and Audio Production* remains true to the theme we articulated when we wrote the first volume: We focus on technology but never lose track of the fact that radio production is about communication, not gadgets. Technology is great, but it’s not an end in itself.

Although it is critical for anyone in the radio business to adapt to advancing technology, it is even more important to grasp the underlying factors of how to use the medium for communication. That way, the basic principles will last a lifetime, and you can stay current easily throughout your career.

FEATURES

This new edition has recurring boxed features throughout the text that are designed to highlight aspects of radio production and performance we consider essential for the modern radio communicator. Among them are the following:

- “Tuning In To Technology” boxes highlight the very latest in technological developments, including—new to this edition—mobile applications and services that allow an individual to set up his or her own radio station on the Internet.
- “You’re On!” boxes provide step-by-step guidance for on-air performance.
- “Industry Update” boxes summarize the newest trends in the radio business, both terrestrial and Internet.
- “Radio Retro” boxes provide a glance back into radio’s heritage designed to show you how the past connects with the present and will connect with the future.

NEW TO THIS EDITION

In addition to the overall thrust described above, we have also included updated and expanded instruction throughout. For example:

- An expanded chapter on sound and microphones, particularly useful for those readers who want to work in music recording (Chapter 2).
- Up-to-the-minute instruction in the fundamentals of audio editing, including details on the latest software (Chapter 5).
- Clear explanations of how the computer has become the heart and the brain of audio and radio production, as well as many radio station operations (Chapter 8).

- Examples of great writing for the ear, as well as comprehensive explanations of how to hone this craft (Chapter 11).
- Updated details on formats and programming strategies (Chapter 16).
- Comprehensive guidance to navigate the new frontiers of Internet radio, mobile auto radio, and entrepreneurial ventures (Chapters 17, 18, and 19).

ACCOMPANYING RESOURCES

Instructor Companion Website. The password-protected instructor website includes electronic access to the Online Instructor's Manual, as well as a downloadable test bank.

Online Instructor's Manual. *Modern Radio and Audio Production's* electronic and downloadable instructor's manual includes chapter summaries, teaching suggestions, sample syllabi, and test questions.

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Foreword

I got my start in radio, and learned so much about the magic medium, from one of the coauthors of this fine tome, Dr. Lewis O'Donnell, when I was a broadcasting major at the State University of New York at Oswego. In fact, “Doc,” as we called him, told me in my freshman year that “I had the perfect face for radio!” I actually consider that a compliment.

My colleagues at the time, Carl Hausman and Philip Benoit, shared, if not my facial deficiencies then certainly my enthusiasm for radio—and I think the authors' view of radio shines through in this latest edition of their text.

This edition has been expanded to include more guidance about programming and on-air performance. Those are vital areas for anyone who wants to go into broadcasting because in today's competitive marketplace you need a complete arsenal of skills.

And, of course, *Modern Radio and Audio Production* still does what it did from the start: It provides a jargon-free, user-friendly introduction to the process of communicating with radio. There's plenty of high-tech here, but there's also a lot of down-to-earth information. I hope you enjoy this book. I know I have. And I'm not saying that just because Phil Benoit still has in his possession certain negatives from my college years that might prove embarrassing.

Al Roker

NBC's Today Show



Astrid Stawiarz/Getty Images



Production in Modern Radio

The phrase “when one door closes, another opens” is an obvious cliché, but like many clichés it holds a grain of truth. Digital technology has turned virtually all entertainment and news industries on their heads. It will come as no news to you that changes in delivery systems have left executives in all media scrambling to find new revenue models. For many services and industries, the news is all grim.

But things look much better in radio, and the future—although no one can predict it with certainty—seems bright. Why? If you’re entering radio today, new options are open to you, options unthinkable when the first version of this book was produced more than 25 years ago. For example, if you’re involved in music, you might get a job at a “traditional” radio station or record label, or you might start your own recording studio. A recording studio even 15 years ago involved staggering sums invested into mixing consoles, filters, and other paraphernalia to shape the audio signal. Today, even a modestly priced computer along with software that is often available for free can produce roughly the same product.

Are you fascinated by radio programming? You may elect to enter “traditional” radio and work your way up to program director. Conversely, you could start your own radio station over the Internet. Several modestly priced options are within the range of almost anyone, financially and technically, who wants to start and maintain an Internet station.

The choices are yours, and you’ll find all the options explained in detail throughout this book.

Chances are, you are indeed looking to enter the radio industry. In the midst of media turmoil, radio is one of the few media businesses that maintains a steady revenue flow and has remained robust, posting its first year-to-year increase since 2000 in 2010. Radio industry total revenues from all sources topped \$17 billion in 2013 according to the Radio Advertising Bureau.

Advertisers are increasingly choosing digital advertising platforms including websites, streaming over the Internet, and HD (hybrid digital). Digital forms of radio advertising enjoyed an 18 percent increase in revenue in 2013 over 2012. “Spot” advertising—commercials placed by an advertiser at stations of the advertiser’s choosing—and network showed slight revenue declines in 2013 due mostly to an influx of political advertising at the end of the presidential election campaign, which boosted spot advertising in 2012.

Although Americans have cut back on the number of hours they spend with radio as available media choices have multiplied (from about 16 hours per week a decade ago to about 14 hours per week in 2013), the number of Americans age 12 and older who listen to radio in an average week has increased. The current figure is about 92 percent, which represents nearly 245 million Americans—a record high. Those listeners spend about 2 hours a day with radio, according to the consumer research firm Nielsen. That is more time than consumers spent using DVD players, streaming video on mobile devices and the Internet, using game consoles, and using the Internet on a traditional computer, says Nielsen. Nielsen also notes that radio audience members have money to spend because more than two-thirds of them work full-time; they also listen during the workday in their cars and at their places of work. Radio is unique in its ability to engage listeners in locations outside the home.¹

Traditionally the term *radio* typically connoted a medium that uses a broadcast signal to transmit a signal “over the air.” Increasing reliance on other forms of transmission such as the Internet has led many of those who work in and report on the medium to use the more inclusive term **audio** instead of “radio” when referring to what was once the sole province of traditional radio broadcast outlets. In fact, we have added the term *audio* to the title of this book to indicate this shift and to take into account the broader scope of opportunities available to those who master the necessary production skills to land jobs in the field.

Using that more inclusive terminology, Nielsen reported in 2014, “Audio is available on multiple platforms, in real time, whenever consumers want to listen on more than 16,000 stations across the country covering 50 different formats.”² Add to that the total audience numbers noted earlier, and you have described a massive, vital, and thriving medium that delivers a wide array of information and entertainment to the vast majority of American citizens.

In keeping with the idea that new terminology is called for, traditional radio, which we often call “terrestrial” radio, is losing share to the Internet, iPods, and other digital media, and shares of audience are dropping as even traditional radio finds that it can offer two, three, or four channels with digital signals as well as virtually unlimited market segments on the Internet. Clearly, this is both a closing door and an opening one. Highly specific markets can be exceptionally profitable. What such markets lack in raw numbers they make up for in appeal to advertisers who desire a focused demographic with predictable buying habits.

Speaking of reaching specific demographics, new developments in targeting radio listeners hold terrific promise for the future of radio/audio—or whatever we choose to call these media in the digital future. We’re talking about algorithm-based radio, a service that uses a sample of listener preferences to predict preference in music and, of course, purchases. Pandora, a pioneer in this category, states that 31 percent of Americans age 12 and over had listened to Pandora in the last month—a massive tune-in rate, especially when compared to percentages in the single digits for competitors such as Spotify, Google Play Access, iHeartRadio, and Slacker. Some algorithm-based services offer variations on a revenue model from free service to listeners willing to tolerate ads mixed in with the programming to charging listeners for commercial-free listening and other services such as access via mobile apps. Others offer only a service without ads for a modest monthly subscription fee (Spotify charges \$10 per month) and one, Xbox, offers an option to pay

¹“State of the Media,” Audio Today, February 6, 2014, http://www.nielsen.com/us/en/search.html?q=state+of+the+media%3A+audio+today&sp_cs=UTF-8.

²Ibid.

a \$60 annual fee for a live service available only on Xbox devices. The need to pay significant fees to music publishers keeps the industry's profits modest, and some, like Pandora, have recently raised subscriber fees to boost the bottom line.

The satellite-relayed subscription service, Sirius XM reported in early 2014 that it had amassed nearly 25 million subscribers. Offering clear, high-quality audio mostly to listeners in cars, Sirius XM has two satellite radio services in the United States and one in Canada. Each serves up an astounding array of channels, ranging from jazz and easy listening to sports and comedy. Not subject to Federal Communications Commission (FCC) regulation, Sirius XM is free from restrictions on content dealing with offensive language and frank discussions of sexually charged topics. Aficionados of early radio can experience programming as it sounded in radio's so-called Golden Age during the 1930s, 1940s, and 1950s on Sirius XM's Radio Classics channel, which offers a robust line-up of drama, Western, comedy, and music variety programs that entertained mass audiences of that era.

Services that serve up on-demand music orders are beginning to take off as well. An early entrant called Thumbplay, owned by radio giant Clear Channel Communications, now competes with a host of newer players who have jumped into the field in recent years, including subscriber-based services such as Spotify, Rdio, Pandora, and Slacker, which offer at least some on-demand music streaming.

But we haven't yet touched on what promises to be the biggest game changer in the radio industry, an invention that brings the "radio" back to "radio." We're referring to the mobile market, the fertile ground for advertisers seeking to reach predominately young audiences. Some mobile smartphones ("phone" may in fact be becoming a quaint term) are now equipped with HD radio receivers, some with FM, and almost all are capable of receiving and playing back an audio signal of some sort. Mobile radio could be an advertiser's dream; in addition to reaching people anywhere—a traditional strength of radio—all new smartphones are equipped with GPS location-sensing devices. The privacy implications have yet to be sorted out, but delivering ads based on the location of the listener has obvious profit potential.

Imagine a portable device that reaches the listener with music suited to that person's preference and lifestyle. If that sounds familiar, note that a half-century ago, when radio was reeling under the crush of television, a new invention called the transistor allowed youthful listeners to take their music with them and immerse themselves in a lifestyle based on their music. The rest was history. And the rest of the story is the future.

Welcome to Radio 2.0.

THE DURABILITY OF RADIO

Although this is clearly an unstable time for most media, radio has some unique strengths that bode well for the future. First, radio is still one of the few media that can be accessed reliably and safely in the car, where we spend an ever-increasing proportion of our time. Second, it is the constant companion of multitaskers, who devote an ever-increasing amount of time to radio along with some other medium, particularly computer-based media.

Radio also retains a strong hold on what's called *business-to-business advertising* (B-to-B), essentially, one firm selling to other firms that use a particular product. Because radio reaches a high proportion of business owners and executives during drive time—the periods when people are traveling to and from work—it's a great medium for B-to-B.

TUNING IN TO TECHNOLOGY • ARE TRADITIONAL MEDIA DEAD? NO—EVERYTHING OLD IS NEW AGAIN

Lessons from History as We Move into the Digital Future

There's something of a "sky is falling" atmosphere in what we might call the "traditional" or "legacy" media, including, of course, radio.

This is not to minimize the disruption that the digital age has imposed on radio, television, and newspapers, as well as on the traditional economic model that supported those media. Indeed, times are tough for many (though not all) media outlets, and predictions that things will get better are cold comfort to someone faced with paying the bills this week.

Having said that, it's important to remember that media rarely disappear. Usually, they come back in a stronger form, adapting themselves to new technologies, often altering their content in such a way as to make the new medium and the new message profitable.

Do the words in the preceding paragraph sound familiar? They echo a theory proposed by Marshall McLuhan, who coined the famous aphorism "the medium is the message."

Let's take a minute and walk through a century-and-a-half of media history to show what that means to media that not only are changing their physical method of delivery but their content as well. The point: This has all happened before, and even though the inventors of new media have never been very good at predicting the future, the future that evolved was generally a profitable one.

Here's an example of how medium became the message, dating back to the run-up to the American Civil War.

How the Technology Changed Content

The telegraph had made widespread delivery of news a reality, and a new organization, the Associated Press, leveraged this

development to form a news "cooperative," in which newspapers pooled their news, being both providers and consumers.

But there was a problem: News before the telegraph was typically not in what would be characterized as an objective style; it was biased toward local views and often echoed a party line. Vestiges of this heritage remain in what remains of modern newspapers (two examples are *The Rochester Democrat and Chronicle* and *The Springfield Republican*).

Slanted news had an undeniable local appeal, but was not a marketable commodity among states sharply divided in political views not only pertaining to slavery but to tariffs, land-use policies in the expanding West, and national banking. As a result, the AP instructed reporters to adopt a straightforward, "objective" approach to news so that the product could cross political lines.

There was a technological complication too: Time on the telegraph was sharply limited because there weren't enough lines or operators, and service was often compromised by sabotage or censorship as the nation's conflicts evolved into a shooting war.

Wartime realities thus changed the structure of news again. The leisurely, rambling narrative common to prewar coverage was replaced with a top-heavy "summary lead" that put the who, what, where, when, and why up front—in case the transmission was shortened or interrupted.

The inverted pyramid is still in common use today; the September 2, 2014, edition of the *New York Times* online had, in rough eyeball estimation, presented about a third of the news stories in the inverted pyramid format. A quick perusal of AP stories shows that most still utilize the format developed from about 1840 to 1865.

So what?

Let us answer with another story.

In late 2009, the Associated Press began reconfiguring how it writes leads and headlines. Irony and humor are discouraged. Repetition of key terms is encouraged. The reason: Search engines are not very good at detecting ironic meanings and generally lean toward ranking stories near the top if those stories contain relevant key words.

Ecological and Technological Change and the Future of Radio

Technology and social structure have made an interesting loop in 150 years, and a study of the past, although certainly not providing a direct signpost for where media are or should be headed, does illuminate some twists the path may take in terms of technology, content, and economics.

The medium and message connection has become ecologically mixed in communication structures to the point where it is hard to discern without taking a deliberate step back. (Note: Here we use *ecological* in its literal meaning—an interdependent mixture of things that create a new, co-dependent entity. The word was rescued from its presumed synonymous relationship with the environment by media and communication scholar Neal Postman, who not only wrote about media ecology but evolved a respected academic department at New York University by that name. His contention was that media interacts ecologically with society by changing the system, not as an additive but as a mixture, in much the same way that eliminating a certain breed of fish affects more than just the fish; it may eliminate a food source for a certain species, which may then die off and give free rein to other creatures that were once its prey.)

An ecological understanding of media really does provide an interesting insight into the factors that affected the development of communication technologies. Radio is a good example, and perhaps the perfect example.

As mentioned, “experts” in media have usually had a pretty poor track record of predicting where things are going—even with their own inventions and innovations. Thomas Edison thought his phonograph was a top-notch revolution in the business world—as a business dictation machine—and was dismissive of people who thought it would be fun (and profitable) to play music in the home.

David Sarnoff, perhaps radio’s most influential pioneer, as a young man wrote a memo to his bosses saying radio—which was at the time viewed as a very profitable device for communication among ships—would someday be a “music box” where people could listen to their favorite songs. His idea was dismissed out of hand.

When it became apparent that people did enjoy listening to music via radio, early radio executives were unsure that the medium would ever be suitable for advertising. They didn’t believe anyone would respond to a short commercial, and in any event thought that many products—such as toothpaste—were “too personal” to be advertised on such an intimate medium and would offend people.

The point: Expect the unexpected, and understand why we are so poor at anticipating the paths media will take.

Media May Eat, But They Rarely Kill

Media developments move in unexpected directions that frequently confound the “experts,” and while the invention of new media is always expected to kill old media, that doesn’t usually happen. Television almost killed radio for a while, but then radio adapted into a lifestyle medium and for a time became stronger than ever. Radio used to be a mass entertainment medium, broadcasting drama and variety nationwide. But when it became apparent that television could do that task much better, radio evolved into a medium that targets specific listeners in a narrow range.

TUNING IN TO TECHNOLOGY • ARE TRADITIONAL MEDIA DEAD? NO—EVERYTHING OLD IS NEW AGAIN (CONTINUED)

To demonstrate this effect in other media: Home video was once expected to kill movies. In fact, home video probably made the movie industry stronger by infusing production capital from up-front sales of home video rights.

Regulation Will Play a Role

The challenge for radio and all media in the coming years will be to evolve not only in directions the technology may take but in ways that the government allows and sanctions, ways that will allow radio to have a competitive advantage. Again, the history of radio illustrates this concept clearly. Radio was initially developed as a method of ship-to-ship and ship-to-shore communication. Young Guglielmo Marconi and his backers made a fortune by taking out very restrictive licenses on his process and equipment. A ship could not just buy a radio; the shipping company had to buy a Marconi system and carry an operator in the employ of the Marconi Company—and all of this came at a premium price.

Some ships couldn't afford Marconi radio systems, and after a few of these ships sunk and their crews drowned because they couldn't send out an SOS or, if they could, they could not reach a Marconi-equipped rescue ship, the government stepped in and decreed that this new technology could not be cornered by one man or one company. Radio was then redeployed as a mass medium. When interference among radio stations endangered the future of the medium, the government stepped in with various pieces of legislation that governed the assignment of radio frequencies and dictated, to an extent, how stations should operate in a way that would assure mutual survival. Years later, when a promising

technological development, FM radio, was going nowhere because not enough people owned FM receivers, the government mandated that auto manufacturers make car radios FM compatible. The rest, as they say, is history.

Radio and the Digital Future

As detailed elsewhere in this chapter, what we now call “terrestrial” radio is struggling to evolve, but as we have shown, struggle and evolution are generally precursors to prosperity. In 2014, radio is making large strides by embracing new horizons. Satellite radio, for example, has already proved its viability. Internet radio, once a curiosity, has become a mainstream venue for traditional radio enterprises as well as for entrepreneurs. HD radio is off to a slow start (reminiscent of FM), but this evolving digital technology holds enormous potential in its ability to allow a broadcaster to produce several distinct channels in the spectrum space previously occupied by one.

The Real Lesson of History

The takeaway: Creativity—the ability to exploit the medium to communicate, entertain, and persuade—and the acquired skill of developing a message that meets the needs and expectations of an audience can be adapted to just about any technology. But the technology cannot be adapted to provide a producer with those skills. Throughout this book, as we have done for more than two decades, we stress the message first, and then provide explicit guidance on how to adapt it to the medium.

Despite the galloping advance of digital technology, some things never change.

SOURCE: Portions of this section were adapted from Carl Hausman's book, *The Future of News*.

So even though the media landscape is as shaky as it's ever been, radio poses some unique advantages that bode well for its evolution. The fact that the Internet has spawned alternatives to so-called terrestrial radio is old news; the *new* news is that the ability to offer a wider variety of radio choices on demand for the Internet portion of the radio offering—or an exclusive Internet channel—creates new opportunities in radio production, programming, and performance.

This chapter puts the ever-changing and ever-exciting world of radio in perspective, leading you through a bit of history and sketching the way radio came to do what it does so well today—target a specific audience that loves what a particular station has to offer.

Perhaps the most interesting facet of studying radio is seeing how it has adapted to technological change, sometimes evolving in ways no one expected and occasionally using threats from other media to its advantage. Throughout this book, we use a feature called Radio Retro to illustrate how the past has influenced the present in radio. This chapter's entry looks at radio's earliest origins.

SOUND OF THE STATION

The station's sound is created by using various sources of sound to create a specific result—a targeted product that appeals to specific listeners. It's how these sources blend that makes one station different from the others that compete for a listener's attention.

The unique sound of a station emerges from a combination of the type of music programmed, the style and pace of vocal delivery used by the station's announcers, the techniques used in the production of commercials and public service announcements, the sound effects used in the presentation of newscasts, and other special recording techniques and sound production methods.

FORMATS

Commercial radio stations make their money by targeting audiences for advertisers who buy time on the stations' airwaves (there is, of course, much more on this in later chapters). The audiences are "delivered" to the advertisers. They are measured by rating services, which use sampling techniques to provide a head count of the audience, including data on such characteristics as age, gender, and level of income.

A commercial radio station's programming goal is to put something on the air that will attract audiences, which then can be "sold" to advertisers. If the programming doesn't achieve this goal, there will be few advertisers and, of course, little money coming into the station's coffers. Without money, the station cannot operate. So, the name of the game is to attract and hold an audience that will appeal to advertisers. This crucial aspect of radio programming—developing a format—is a highly specialized field of its own.

Just as commercial radio must attract and hold a specific audience to be successful in the marketplace, public radio stations must use the same fundamental techniques to design programming that will meet the needs of their audiences. Although public radio stations do not sell time to advertisers, they must successfully package their programming to obtain program underwriters and individual subscribers.

REACHING A SPECIFIC AUDIENCE

Unlike television, which tries to appeal to broader, more general segments of the public with its programs, radio has developed into a medium that focuses on smaller groups, the so-called *target*

RADIO RETRO • RADIO CAPTURES LISTENERS—AND IMAGINATIONS

Radio's beginnings in the early part of the last century gave no hint of the role it would play in today's world. Early radio experimenters such as Guglielmo Marconi and Reginald Fessenden never envisioned an era when their electronic toy would become a means of providing entertainment and information to audiences in their cars, in their boats, and in their homes—much less to joggers in their stride.

Early radio programming started as a novel attempt to bring the cultural offerings of major cities into the living rooms of all America. Gradually, radio assumed its status as a personal companion. Early radio programming consisted of live symphony broadcasts, poetry readings, and live coverage of major news events, along with the same kinds of drama, situation comedy, and other programming that form so much of today's television schedules.

Some historians maintain that radio assumed its present form in 1935, when Martin Block first aired his *Make-Believe Ballroom* show on New York City's WNEW. The idea for the program came from a West Coast station. A planned remote broadcast of a band performance at a local ballroom was canceled. To fill the time, the enterprising broadcaster obtained some of the band's recordings and played them over the air. He identified the program as coming from a "make-believe" ballroom, and the time was filled. When Block brought the idea to New York, it was the birth of the **disc jockey (or DJ)** era in radio.

Radio production reached its zenith during the 1930s and 1940s, the so-called Golden Age of Radio. Radio programs of that era often originated in large studios, where production staff and performers created elaborate programs whose effectiveness depended on sophisticated production techniques. Dramas were broadcast live because audio tape recorders hadn't been invented yet. Music was provided by studio

orchestras that performed live as the program aired.

Sound effects were imaginatively created by production staff who worked in the studio alongside the actors and musicians. Coconut shells, for example, were used to re-create the sound of horses' hoof beats, and the crackling of cellophane near the microphone re-created the sound of fire. The arrangement and orchestration of various sound sources combined to create the desired effect in the minds of the listening audience. Budgets were elaborate, scores of people were involved, and scripts were often complex. Production is what made the Golden Age golden.

Today, the mainstay of radio is recorded music, interspersed with news, talk, and information—and, of course, commercial messages, which pay for the operation of commercial stations. When television took over the living rooms of American homes and supplied, in a far more explicit way, the drama, variety, and other traditional program fare that had marked radio in its heyday, the DJ format became dominant on radio. Music, news, and personality, in a careful blend known as a **format**, became the measure of radio's ability to attract listeners.

The development of **solid-state** technology, and later of **microchip** electronics, freed radio from bulky stationary hardware. At the beach, in the car, and on city streets, radio can be the constant companion of even the most active of listeners. Freedom from the long (half-hour and hour) programs that once characterized radio, and still typify television programming, means that information cycles quickly in radio.

All this has great significance for anyone who wants to understand the techniques of radio production. **Production** in radio is the assembly of various sources of sound to achieve a purpose related to radio programming. You, as a producer in radio, are responsible for the "sound" of the station.

TUNING IN TO TECHNOLOGY • A TIVO™ FOR RADIO?

Could a Web-based TiVo for radio radically change listening habits? Entrepreneur Michael Robertson recently launched a new service called DAR.fm, in which “DAR” stands for “digital audio recorder.”

The site works by letting users record programs from several hundred radio stations that have online streams. Users can program the order in which they want the elements played back. Through a companion site, users can also store and stream their own content. Content plays back through apps for popular smartphones and some audio devices.

Not surprisingly, the launch of the site raised eyebrows in the music industry, inviting possible legal action, reports the *San Francisco Chronicle*. Robertson said he believed he was on solid legal ground because of court cases dealing with cable-TV digital recording services; in one such case, a court ruling said, in essence, that if the user hits the button it’s not a copyright violation.*

*<http://www.sfgate.com/cgi-bin/article.cgi?f=/g/a/2011/02/23/businessinsider-the-music-industry-isn't-going-to-be-pleased-about-darfm-2011-2.DTL> Feb. 23

audiences. For example, a station may choose to program rock music to attract a young **demographic**. (Demographics are the statistical characteristics of human populations; the word is commonly used in the singular in the broadcasting industry to designate any given segment of the audience.) By appealing to one segment of the public (such as people of a certain age, gender, or income) that shares a preference for a certain type of music, a station can hope to attract advertisers wanting to sell products to people of that group.

HOW TARGET AUDIENCES AFFECT FORMAT

Much research and effort has gone into determining the types of programming that attract different types of audiences. The result of these efforts has been identification of formats that appeal to specific audiences.

A format is the arrangement of program elements, often musical recordings, into a sequence that will attract and hold the audience segment a station is seeking. For example, a format labeled “Top 40” or “CHR” (contemporary hit radio) is constructed around the most popular recordings currently being sold to an audience mostly in its teens and early twenties. By programming these recordings successfully, a station will attract a number of listeners in these age groups. The more teenagers and young adults who listen to the station, the more the station can charge the advertisers who want to use radio to reach this valuable target audience.

There are a great many formats, including CHR (a newer and more inclusive version of the Top 40 format), adult contemporary (which reaches adults with modern music), urban, country, classic rock (now a fixture on FM), Christian, Latin, modern rock, dance, and classical. There are other specialized formats, too, such as urban contemporary, ethnic, smooth jazz, and news, which has developed several forms, including all-news, news-talk, and other hybrids.

There are some very narrow formats, and the names used to describe them vary widely, but four formats—news-talk, adult contemporary, popular hits, and black-specific—account for more than half of all radio listening today.