

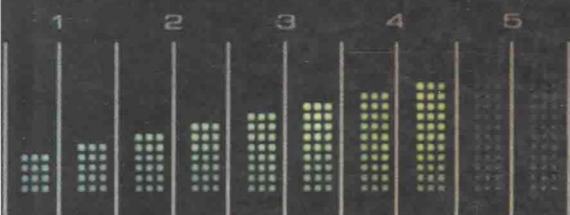
# THE RADIO STATION

SECOND EDITION

MICHAEL C. KEITH • JOSEPH M. KRAUSE

COMPUTER CONTROLLED TUNER AMPLIFIER

SIGNAL STRENGTH



SIGNAL FREQUENCY

FM 103.3 MHz

FM  
MUTING

ON

TUNING  
MODE

AUTO

MANU

TUNING  
LEVEL

HIGH

LOW

APR SYSTEM

N.R.  
▼

OFF

ON

HI-BLEND  
▼

OFF

ON

RF MODE  
▼

LOCAL

DX

STEREO  
MODE

AUTO

MONO

SOUND PROCESSOR LEVEL

MIN MAX

50Hz

DYNAMIC BASS  
EXPANDER

OFF  
ON

Hz

DYNAMIC TRANSIENT  
EXPANDER

# **THE RADIO STATION**

**Second Edition**

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**Michael C. Keith  
Joseph M. Krause**



**Focal Press**  
Boston London

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*Like the reader and the  
Poem  
Radio and the listener  
Create something always  
Individual  
And  
Become unknowingly  
One  
In the experience*

L. Bonczek

To my daughter, Marlo, and to the  
memory of my father.

M.C.K.

To my father, whom I dearly miss, and  
to my son, Daniel, who has brought so  
much joy into my life.

J.M.K.

# FOREWORD

## by Rick Sklar

*One of the world's preeminent broadcasters, Rick Sklar refined the contemporary hit music format into its ultimate form at radio station WABC in New York, which during his decade as programmer was the highest rated radio station in America. Mr. Sklar was a network vice president for twelve years and has served as an adjunct professor at St. John's University. He currently heads his own radio consultancy firm, Sklar Communications. His work at WABC is the subject of his book Rocking America—How the All Hit Radio Stations Took Over.*

The radio industry has just undergone a period of rapid expansion. Since the government decree in the mid-sixties requiring separate FM programming in larger markets, the radio station population has doubled to ten thousand outlets. Like most other specialized businesses, stations need skilled professionals to enable them to operate successfully. But because the industry has grown so fast, it has been unable to provide the time or the training to produce enough personnel.

As a result, radio has had to improvise for its new people. Those who go directly from the classroom to the commercial broadcast operations of America find that academic experience does not fully equip them for the demands of the bottom-line-oriented, efficiency-minded operator-owners who think first of profit and later about the programming. Others starting in very small markets learn that the old "sink or swim" adage still holds true as soon as they move to larger, more demanding situations. Books like this one that draw upon the experience of successful professionals working under intense pressure to produce the

ratings and a profit are one way to help equip the radio students of today to be the radio professionals of tomorrow.

Regardless of the area in radio you are considering for your career, I would advise you to read every chapter of this book thoroughly. I make this suggestion not only because you are quite likely to change career directions more than once, after you actually begin working in radio, but because of the interdependent nature of the modern radio station. Each department depends on the cooperation of the other departments for the station's goals to be achieved. For example, both the programming and the audiences that the programs have to produce for the advertiser can be affected if poor engineering results in a weak signal or shrunken coverage area. Engineering errors also can result in poor-sounding music or an awkward equipment configuration in the studio. A disc jockey who has to concentrate too much on making the equipment work cannot perform at his or her best. Advertising and promotion personnel also have a big effect on ratings. A misguided or dull advertising campaign with television promos, billboards, and ads that are ignored and contests that do not generate any excitement can weigh heavily on the program director rather than the advertising manager. It's the program director who has to answer for low shares and the ratings books.

People entering radio today face competitors who were not dreamed of ten years ago. Confronted by television and cable, video games and movies, and computer entertainment software, radio needs to stress the creativity and imagination that come into play when only one sense—hearing—is stimulated and all the information, en-

tertainment, and sales messages must be delivered by sound alone. The radio industry faces tougher challenges than ever, but

for those who can meet them, the personal and financial rewards will be great.

# PREFACE

---

This new edition, like the first, is the result of a mutual desire and effort to provide the student of radio with the most comprehensive account of the medium possible, from the insider's view. It is presented from the perspective of the radio professional, drawing on the insights and observations of those who make their daily living by working in the industry.

What sets this particular text apart from others written by broadcasters is that not one or two but literally dozens of radio people have contributed to this effort to disseminate factual and relevant information about the medium in a way that captures its reality. These professionals represent the top echelons of network and group-owned radio, as well as the rural daytime-only outlets spread across the country.

We have sought to create a truly practical, timely, illustrative (a picture can be worth a thousand words—stations explain and reveal themselves through visuals), and accessible book on commercial radio station operations; a book that reflects through its structure and organization the radio station's own. Therefore, the departments and personnel that comprise a radio station are our principal focus. We begin by examining the role of station management and then move into programming, sales, news, engineering, production, and traffic, as well as other key areas that serve as the vital ingredients of any radio outlet.

Since our strategy was to draw on the experience of countless broadcast and allied professionals, our debt of gratitude is significant. It is to these individuals who contributed most directly to its making that we also dedicate this book.

In addition, we would like to express our

sincere appreciation to the many other individuals and organizations that assisted us in so many important ways. These include: Arbitron Ratings Company, Auditronics Inc., Birch Radio Inc., Broadcast Electronics, Broadcasters Promotion Association, Communications Graphics, Roger Crosley and Roger Turner of Dean Junior College, Federal Communications Commission, FMR Associates, IGM Inc., Jefferson Pilot Data Systems, Mike Jones of Jones' Homes, Marktron Inc., Scott Mason of Mason Photography, McZ Limited, Joy Dunlap of the National Association of Broadcasters, Radio Advertising Bureau, *Radio and Records*, Radio and Television News Directors' Association, Radio Computer Systems, Radio Corporation of America, Satellite Music Network, Society of Broadcast Engineers, Jim Steele of the National Association of Broadcasters, Annette Steiner of Dancer Fitzgerald Sample, University Press of America, and Westinghouse Broadcasting.

A special word of appreciation is owed to Lou Emond for his help in editing the original draft of this manuscript and for formulating the Chapter Highlights that serve as study guides at the conclusion of each chapter.

A further note, since the publication of the first edition it is safe to assume—in an industry noted for its nomadic nature—that a number of contributors have moved on to positions at other stations. Due to the sheer volume of contributors it would be difficult to establish the current whereabouts of each. Therefore we have let stand the original addresses and call letters of contributors, except when new information has become available; in those cases, changes have been made.



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# 1

# State of the Fifth Estate

## IN THE AIR—EVERYWHERE

Radio is ubiquitous. It is the most pervasive medium on earth. There is no patch of land, no piece of ocean surface, untouched by the electromagnetic signals beamed from the more than twenty-seven thousand radio stations worldwide. Over a third of these broadcast outlets transmit in America alone. Today, over eleven thousand stations in this country reach 99 percent of all households, and less than 1 percent have fewer than five receivers.

Contemporary radio's unique personal approach has resulted in a shift of the audience's application of the medium: from family or group entertainer before 1950, to individual companion in the last half of the century. Although television usurped radio's position as the number one entertainment medium four decades ago, radio's total reach handily exceeds that of the video medium. More people tune in to radio for its multifaceted offerings than to any other medium—print or electronic. Practically every automobile (95 percent) has a radio. "There are twice as many car radios in use (approximately 123 million) as the total circulation (62 million) of all daily newspapers," contends Kenneth Costa, vice president of marketing for the Radio Advertising Bureau (RAB). Seven out of ten adults are reached weekly by car radio.

The average adult spends three-and-a-half hours per day listening to radio. According to a recent Group W (Westinghouse Broadcasting) report, 84 percent of all adults listen to radio between fifteen and sixteen hours each week. A survey conducted by RADAR (Radio's All Dimensional Audience Research) concluded that 95.7 percent of all persons over twelve years old tuned in to radio. In the late 1980s, this computes to around 190 million Americans, and the figure continues to grow.

The number of radio receivers in use in America has risen by 50 percent since 1970, when 321 million sets provided listeners a wide range of audio services. In recent years, technological innovations in receiver design alone has contributed to the ever-increasing popularity of the medium. Bone phones, ghetto boxes, and walk-alongs, among others, have boosted receiver sales over the three billion dollar mark annually, up 26 percent since 1970. There are twelve million walk-alongs in use. Radio's ability to move with its audience has never been greater.

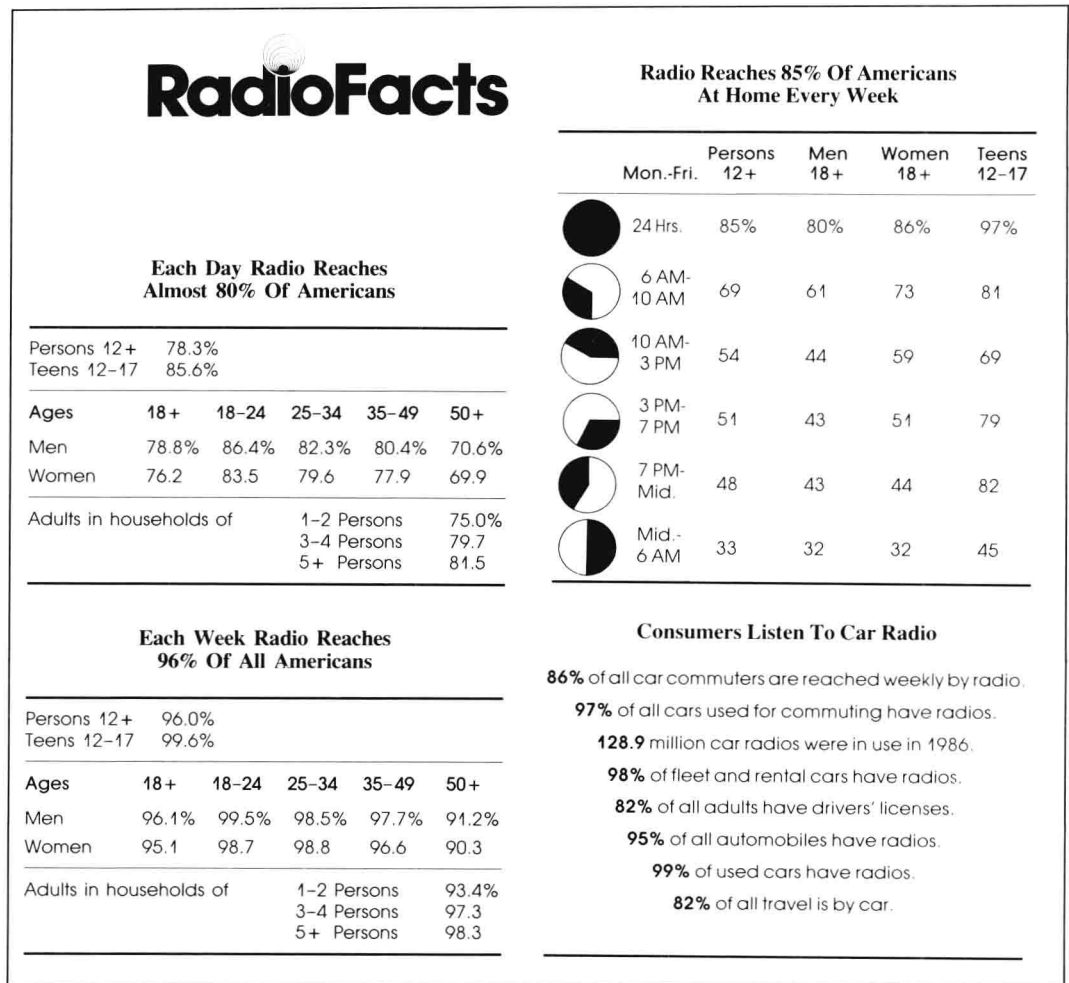
Radio appeals to everyone and is available to all. Its mobility and variety of offerings have made it the most popular medium in history. To most of us, radio is as much a part of our day as morning coffee and the ride to work or school. It is a companion that keeps us informed about world and local events, gives us sports scores, provides us with the latest weather and school closings, and a host of other information, not to mention our favorite music, and asks for nothing in return.

It is difficult to imagine a world without such an accommodating and amusing cohort, one that not only has enriched our lives by providing us with a nonstop source of entertainment, but has also kept us abreast of happenings during times of national and global crisis. To two hundred million Americans, radio is an integral part of daily life.

## A HOUSEHOLD UTILITY

Although radio seems to have been around for centuries, it is a relatively recent invention. Many people alive today lived in a world without radio—hard to imagine, yet true. The world owes a debt of gratitude to several "wireless" technologists who con-

FIGURE 1.1  
Courtesy RAB.

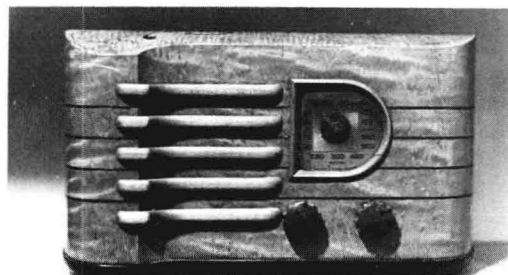
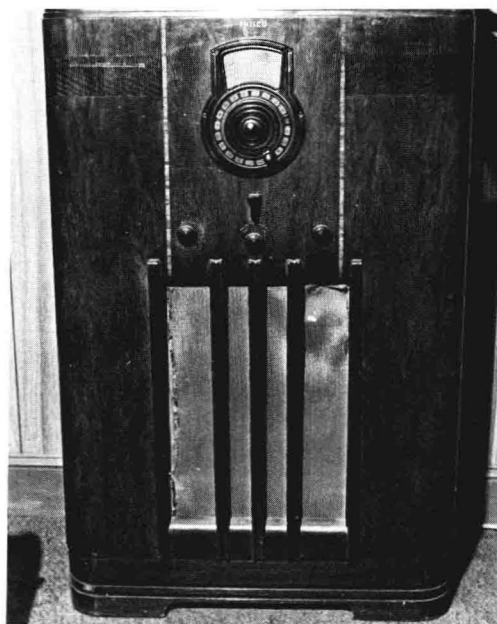


tributed to the development of the medium. A friendly debate continues to be waged today as to just who should rightfully be honored with the title "father of radio." There are numerous candidates who actually take us as far back as the last century. For example, there is physicist James Clerk Maxwell, who theorized the existence of electromagnetic waves, which later in the century were used to carry radio signals. Then there is German scientist Heinrich Hertz, who validated Maxwell's theory by proving that electromagnetic waves do indeed exist.

The first choice of many to be called grand patriarch of radio is Guglielmo Marconi, who is credited with devising a method of transmitting sound without the help of wires—thus "wireless telegraphy." There are a host

of other inventors and innovators who can, with some justification, be considered for the title. Lee De Forest, Ambrose Fleming, Reginald Fessenden, and David Sarnoff are a few. (A further discussion of radio's preeminent technologists can be found in chapter 10.) However, of the aforementioned, perhaps the pioneer with the most substantial claim is Sarnoff. A true visionary, Sarnoff conceived of the ultimate application of Marconi's device in a now-famous memorandum. In what became known as the "radio music box" memo, Sarnoff suggested that radio receivers be mass produced for public consumption and that music, news, and information be broadcast to the households that owned the appliance. At first his proposal was all but snubbed. Sarnoff's persistence eventually

FIGURE 1.2  
Radio receivers from  
the medium's incep-  
tion to the present.



paid off, and in 1919 sets were available for general purchase. Within a very few years, radio's popularity would exceed even Sarnoff's estimations.

## A TOLL ON RADIO

Though not yet a household word in 1922, radio was surfacing as a medium to be reckoned with. Hundreds of thousands of Americans were purchasing the crude, battery-operated crystal sets of the day and tuning the two frequencies (750 and 833 kc) set aside by the Department of Commerce for reception of radio broadcasts. The majority of stations in the early 1920s were owned by receiver manufacturers and department stores that sold the apparatus. Newspapers and colleges owned nearly as many. Radio was not yet a commercial enterprise. Those stations not owned by parent companies often depended on public donations and grants. These outlets found it no small task to continue operating. Interestingly, it was not one of these financially pinched stations that conceived of a way to generate income, but rather AT&T-owned WEAF in New York.

The first paid announcement ever broadcast lasted ten minutes and was bought by Hawthorne Court, a Queens-based real estate company. Within a matter of weeks other businesses also paid modest "tolls" to air messages over WEAF. Despite AT&T's attempts to monopolize the pay for broadcast concept, a year later in 1923 many stations were actively seeking sponsors to underwrite their expenses as well as to gen-

erate profits. Thus, the age of commercial radio was launched. It is impossible to imagine what American broadcasting would be like today had it remained a purely non-commercial medium as it has in many countries.

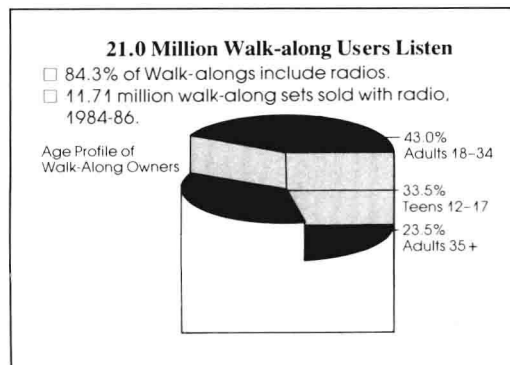
## BIRTH OF THE NETWORKS

The same year that Pittsburgh station KDKA began offering a schedule of daily broadcasts, experimental network operations using telephone lines were inaugurated. As early as 1922, stations were forming chains, thereby enabling programs to be broadcast simultaneously to several different areas. Sports events were among the first programs to be broadcast in network fashion. Stations WJZ (later WABC) in New York and WGY in Schenectady linked for the airing of the 1922 World Series, and early in 1923 WEAF in New York and WNAC in Boston transmitted a football game emanating from Chicago. Later the same year, President Coolidge's message to Congress was aired over six stations. Chain broadcasting, a term used to describe the earliest networking efforts, was off and running.

The first major broadcast network was established in 1926 by the Radio Corporation of America (RCA) and was named the National Broadcasting Company (NBC). The network consisted of two dozen stations—several of which it had acquired from AT&T, which was encouraged by the government to divest itself of its broadcast holdings. Among the outlets RCA purchased was WEAF, which became its flagship station. Rather than form one exclusive radio combine, RCA chose to operate separate Red and Blue networks. The former comprised the bulk of NBC's stations, whereas the Blue network remained relatively small, with fewer than half a dozen outlets. Under the NBC banner, both networks would grow, the Blue network remaining the more modest of the two.

Less than two years after NBC was in operation, the Columbia Broadcasting System (initially Columbia Phonograph Broadcasting System) began its network service with sixteen stations. William S. Paley, who had served as advertising manager of his fami-

**FIGURE 1.3**  
Age profile of walk-along users. Courtesy RAB.





ly's cigar company (Congress Cigar), formed the network in 1928 and would remain its chief executive into the 1980s.

A third network emerged in 1934. The Mutual Broadcasting System went into business with affiliates in only four cities—New York, Chicago, Detroit, and Cincinnati. Unlike NBC and CBS, Mutual did not own any stations. Its primary function was that of program supplier. In 1941, Mutual led its competitors with 160 affiliates.

Although NBC initially benefited from the government's fear of a potential monopoly of communication services by AT&T, it also was forced to divest itself of a part of its holdings because of similar apprehensions. When the Federal Communications Commission (FCC) implemented more stringent chain broadcasting rules in the early 1940s, which prohibited one organization from operating two separate and distinct networks, RCA sold its Blue network, retaining the more lucrative Red network.

The FCC authorized the sale of the Blue network to Edward J. Noble in 1943. Noble, who had amassed a fortune as owner of the Lifesaver Candy Company, established the American Broadcasting Company (ABC) in 1945. In the years to come, ABC would even-



**FIGURE 1.4**  
David Sarnoff, the man who put radio into the home. Courtesy RCA.

tually become the largest and most successful of all the radio networks.

By the end of World War II, the networks accounted for 90 percent of the radio audience and were the greatest source of individual station revenue.

## CONFLICT IN THE AIR

The five years that followed radio's inception saw phenomenal growth. Millions of



**FIGURE 1.5**  
Radio fans circa 1921. Courtesy Westinghouse Electric.



**FIGURE 1.6**  
Radio trade paper in  
1923 serving a growing  
industry. Courtesy  
Westinghouse Electric.



receivers adorned living rooms throughout the country, and over seven hundred stations were transmitting signals. A lack of sufficient regulations and an inadequate broadcast band contributed to a situation that bordered on catastrophic for the fledgling medium. Radio reception suffered greatly as the result of too many stations broadcasting, almost at will, on the same frequencies. Interference was widespread. Frustration increased among both the listening public and the broadcasters, who feared the strangulation of their industry.

Concerned about the situation, participants of the National Radio Conference in 1925 appealed to the secretary of commerce to impose limitations on station operating hours and power. The bedlam continued, since the head of the Commerce Department lacked the necessary power to implement effective changes. However, in 1926, President Coolidge urged Congress to address the issue. This resulted in the Radio Act of 1927 and the formation of the Federal Radio Commission (FRC). The five-member commission was given authority to issue station licenses, allocate frequency bands to various services, assign frequencies to in-

dividual stations, and dictate station power and hours of operation.

Within months of its inception, the FRC established the Standard Broadcast band (500–1500 kc) and pulled the plug on 150 of the existing 732 radio outlets. In less than a year, the medium that had been on the threshold of ruin was thriving. The listening public responded to the clearer reception and the increasing schedule of entertainment programming by purchasing millions of receivers. More people were tuned to their radio music boxes than ever before.

## RADIO PROSPERS DURING THE DEPRESSION

The most popular radio show in history, “Amos ‘n’ Andy,” made its debut on NBC in 1929, the same year that the stock market took its traumatic plunge. The show attempted to lessen the despair brought on by the ensuing Depression by addressing it with lighthearted humor. As the Depression deepened, the stars of “Amos ‘n’ Andy,” Freeman Gosden and Charles Correll, sought to assist in the president’s recovery plan by helping to restore confidence in the nation’s banking system through a series of recurring references and skits. When the “Amos ‘n’ Andy” show aired, most of the country stopped what it was doing and tuned in. Theater owners complained that on the evening the show was broadcast ticket sales were down dramatically.

As businesses failed, radio flourished. The abundance of escapist fare that the medium offered, along with the important fact that it was provided free to the listener, enhanced radio’s hold on the public.

Not one to overlook an opportunity to give his program for economic recuperation a further boost, President Franklin D. Roosevelt launched a series of broadcasts on March 12, 1933, which became known as the “fireside chats.” Although the president had never received formal broadcast training, he was completely at home in front of the microphone. The audience perceived a man of sincerity, intelligence, and determination. His sensitive and astute use of the medium went a long way toward helping in the effort to restore the economy.