This book is dedicated to our children:
Glenn Barr, Lesley Barr, Jessica Bloomfield, Gabriel Bloomfield, Corinne Motl and the electromagnetic spectrum at large.
a face for radio
radio station planning and design
Early Image of KDKA, c. 1922
The First Commercial Radio Station in the United States
Pittsburgh

KPLU Proposed Studio Rendering, 2006
NPR Station at Pacific Lutheran University
Tacoma
If you’re driving into town
With a dark cloud above you
Dial in the number
Who’s bound to love you

Oh honey you turn me on
I’m a radio
I’m a country station
I’m a little bit corny
I’m a wildwood flower
Waving for you
Broadcasting tower...

You Turn Me On, I’m A Radio
For the Roses, c.1972
Joni Mitchell

Radio Station Sketch
KPLU at Pacific Lutheran University
Tacoma
The planning and design of the facilities from which radio broadcasts originate is a multi-faceted specialty. It involves architecture, interior design, engineering, and an appreciation of the physical image that the station communicates.

This book was commissioned by the National Association of Broadcasters to fulfill two primary objectives. The first is that the professional literature did not include a thorough and practical guide to help radio station management through the process of building or expanding the physical spaces needed to support its format.

Second, the book expands the management and technical aspects of radio by integrating the station’s image in the community as expressed by its physical facilities. It includes both the exterior and the interior. The station could occupy all or part of a free-standing structure on a busy highway or street. Or, the station could be located within a multi-purpose structure in a city, a mall, or an office park. Both options often become settings for station-sponsored events where advertisers, community members, elected officials, and talent of all types are invited.

Radio occupies an indelible place in the minds of listeners. All radio is local, all 13,748 licensed stations in the United States. It is a growth industry. In the past six years, the number of licensed radio stations has increased by eight percent. Radio, which reaches ninety-four percent of all consumers every week, is much more intimate than other media.

It goes where its listeners go. They take pride in their radio preferences. It is part of their urban fabric. Radio stations employ many thousands of talented individuals in every segment of a station’s operations, from talent to support.

A Face for Radio: Radio Station Planning and Design demonstrates how to implement a facility that relates to the style in which a station’s human resources can most productively function. And, it shows how the station’s physical facility assumes the role of an asset that influences its bottom line, through a subtle and on-going affirmation of its public image.

David K. Rehr, President and CEO
National Association of Broadcasters
Washington, D.C.
Early Massing Study
Cox Radio
Babylon
A few years ago, I was asked to present a lecture at the annual National Association of Broadcasters Radio Conference on the design of facilities. At that time, my firm had completed a half-dozen projects for stations in various parts of the country. I was pleased to have this opportunity to think about the lessons learned and pass them on to colleagues and clients.

It became clear early on that while explaining issues of organization were critical, doing so without also explaining the role of budget, schedule, the design team, and other aspects of the process left voids in explanation. So I asked to change the format from a lecture format to a panel and invited a broadcast engineer, a real estate consultant, and a general manager client to join the discussion. The turnout and response to the session were excellent.

At about the same time, I began a dialogue with Steven Mitchel, Head Librarian at the NAB. As the industry reference resource, he regularly receives inquiries from broadcast facility owners, engineers and managers as to whether there was a resource for how to design and build these facilities. In response to this need for information, the NAB asked us to work on a book about the design of broadcast facilities.

It had always been clear to us as architects that while television and radio do occasionally sit under one roof, there is relatively little in common in regard to design. We are pleased to present here the first of two planned books, *A Face for Radio: Radio Station Planning and Design.* The second book on television is in the pipeline.

*Peter Bloomfield AIA*  
Bloomfield and Associates, Architects  
*Philadelphia*
Thank you efforts fall into two categories:

The intangible includes just about everyone who has made our effort interesting if not easier as we designed and worked on the construction of broadcast facilities. Good clients make good architecture. They approach a project with an open eye and with both experience and a willingness to disregard their own preconceived ideas. They expect their architects to do the same.

Without these smart, experienced and considerate men and women – at all levels of the industry, in large markets and small, whether a new building or a small renovation – there would be fewer good buildings and really no need for a book such as this. Thank you.

Many individuals have been part of making this book tangible. The taking of often not fully thought through items and converting them into what we hope is a cogent form and format has relied on several significant individuals. Beth Van Why and Lisa Calabro gave their eyes and intellect as the graphic layout developed. The book looks and feels as it does due to their diligence.

Many of the diagrams and statistical research were collated by the architects at Bloomfield & Associates, Architects. Their intelligent and careful work over the years has been integral to defining broadcast facilities as they are today.

The engineering, lighting and furniture consultants were as integral to the making of this book as they are to the making of good facilities. Finally the best in the industry – those managers and engineers who agreed to be interviewed – consistently set a standard of excellence and should be recognized.

Thank You
Early Image of KDKA, c. 1922
The First Commercial Radio Station in the United States
Pittsburgh
When the federal government eased regulations on media ownership in 1997, it brought about a spate of consolidation. Fledgling media groups began to merge and acquire stations at a rate never before seen in the United States. Along with the corporate consolidation came the need and interest in developing facilities for this new type of media group.

The opportunity arose to create a physical manifestation of this new business model and to rethink this workplace in general. The architecture of this new model – like the corporate plan itself – has continued to evolve.

The organization of the facility can and should reflect the working style, image, and business goals of the broadcast facility. This applies to the headquarters of all types of radio broadcast organizations, whether a stand-alone station serving small towns or a consolidated group sharing facilities on the twenty-third floor of a skyscraper in a major metropolitan area. There can never be one way to plan and implement a design for a facility that will best serve the current and future needs of a radio station.

Every station whether public or private, in a small market or large and independent of format should have its own personality, identifiable by the people who work there and the audience it reaches. The process for devising a satisfying plan for new facilities is both a bubble-up and a trickle-down exercise. With the guidance and expertise of professional consultants, the ideas, visions, and goals of the participants can be realized. And, along with the three-dimensional outcome, will be a perceived pride of ownership.
Massing Options
KPLU at Pacific Lutheran University
Tacoma
What are your first steps? You know that something needs to be done for your current facility. It no longer meets all of your needs.

Why?
- You need more space to expand.
- The lease is ending.
- You want to bring multiple stations under one roof.
- The neighborhood has changed and you’re looking to relocate.

So, what is involved in the making of a new radio station facility? How can it be done in an organized, affordable and satisfying manner? The starting point is finding and assembling the right team of staff and professionals who will help form the vision and facilitate the process.

An orderly process is well worth the effort if you are planning to renovate or build a new facility. It also offers the opportunity to create a physical representation of a new business model and to rethink the radio station as a workplace.

It will result in an environment that allows the entire staff to work at their highest level. A facility to help everyone do their jobs the best. A facility that helps the promotions department to promote, the sales staff to sell, etc.

Critical to this first step is determining who is best suited to help form that vision and facilitate the process in a way that allows the entire staff to continue doing what they do best: making radio.
**Getting Started**

It is rare to set an actual starting date for a project. Initially you may have encountered or inherited problems with your facility and you begin speculating on solutions. New staff needs, updated production formats, and changes in technology are the usual instigators. The need to consolidate and upgrade may have been on the horizon for some time. Chances are there have been several quick fixes over time.

These moments of initial speculation will incorporate many and often competing forces, such as short-term vs. long-term costs, engineering requirements, and location opportunities. When these interests are formally drawn together, the team has been formed.

To assure success, the team must establish goals. Some team members will be involved from start to finish; others will have brief but crucial involvement. The structure and dynamics of your team should be carefully considered in relation to the type and scale of the project. The following casting of personalities and roles are a few that you may encounter.
Defining the Needed Roles

While the team’s membership and degree of involvement may vary from project to project given the context, size, and management styles, there are a few key members who will be involved throughout the project.

Initially, the team will consist of a few members, typically the general manager, owner, and often the architect. Perhaps there is no more important member than the General Manager, representing the end user and responsible for establishing vision and the project’s aspirations.

The identity of the owner is project-specific but is often a corporation or institution. Their role is principally project stewardship to assure that prevailing values, goals, and standards are understood and deployed.

The architect is usually the first consultant brought on board and, at this early time, their role is primarily advisory. They work to identify opportunities, outline constraints, and establish means.

Together, this team works to outline basic project parameters. During these initial meetings, there are often more questions than answers, but with input from supporting members, the team develops potential solutions.

There may be no greater contributor to the project team than the existing facility itself. This silent and often overlooked member may be the object of deserved criticism, but it does hold some of the most valuable lessons and should be carefully considered.
The Planning Team and The Process

Feasibility Study
The initial step in the process, along with some site considerations, is often the Feasibility Study. The team is expanded to include members who will provide valuable input, and the structure may well resemble the diagram to the right.

Good ideas emanate from a myriad of places. Participation by key staff allows them to embrace the process by encouraging participation – even in the most oligarchical of organizations. The question is: “When and who do you bring into the process?”

The Feasibility Study is a good opportunity for the architect to meet with the department heads and staff to review existing conditions, critique and discuss their work environment, and identify specific requirements. “We need this, not that”, “This no longer works” and “I never understood that”, are common descriptions. One goal of the study is to establish specific design requirements, what is needed, and how the space will be used.

The document describing these requirements is commonly referred to as the “Building Program” and is translated into the space types, sizes, and adjacencies by the architect for team review.

When relocation is the task at hand the real estate agent is the unique member to this phase. Initially they will work to find viable options that will fulfill requirements.
Accommodating the building program is the principal objective, “Will we fit and how does it work?” The lease/purchase options and associated improvement costs are typically the deciding factors. The feasibility study is a seminal project defining moment. The careful review of the opportunities and constraints that each scheme/site presents is essential to the process. Chapter Two looks at this component in greater detail.

**Design Phase**

With a site secured and goals established, the Design Phase is the next step. As indicated in the diagram to the right, the team will expand to include design professionals whose qualifications assure a successful project. This newly formed component is commonly referred to as the Design Team.

The architect usually leads this team and is charged with designing and specifying work required to realize the facility. Together with their consultants and their fields of expertise, they can develop solutions in response to the opportunities and constraints outlined in the feasibility study.

During the initial steps, preliminary drawings and supporting narratives are prepared and presented. There will be numerous meetings to review the progress of the design. Some meetings will address the overall facility while others focus on specific broadcast and operational items.
Team Work Space
Entercom Communications
Kansas City
It is also common for the design team to prepare discrete studies and design options for specific aspects of the project. The impact of these options on the overall project should be carefully considered by the team.

Decisions will have to be made to advance the process and input from team members is crucial at this step. During productive design review sessions, a significant amount of information will be presented. Some information you may be familiar with, while other aspects appear foreign, especially when navigating the sea of acronyms.

All will take time to digest. You may find yourself thinking things through and approaching it from another point of view. There will typically be a few lingering questions.

Experienced design professionals understand this; they realize the gravity of the task at hand and work to provide the necessary information. *If you don’t understand something, ask.*

It is far more effective to make an informed decision during the design phase than leave room for doubt and correction during construction.

The design process is only as informed as the questions asked. Your design team should work hard to ask the right questions and develop viable solutions. This is a brief overview of the design process and related topics are developed elsewhere in this edition. The team’s structure and paths of communication can take several forms and for the most part are project-specific. However you can anticipate a similar casting of roles for the design phase as indicated in the diagram on page 6.
Members of Your Staff

The selection of the right staff members is critical to defining a great project. It is important to identify key staff that will be available to answer questions and review the design process. It is also beneficial to establish one of these people as the point of contact. This can facilitate effective communication with other team members while preserving your staff resources to do their day-to-day jobs.

General Manager

The General Manager is perhaps the most important team member, establishing the vision and aspirations for the project. They best understand the community within which they operate and how their business and broadcast models are developed to interact with the public at large. From the big picture through the details, their consistent involvement throughout the process is invaluable.

Department Managers / Heads

This usually includes managers for the Programming, Sales, Development, Traffic, Promotions, and Accounting departments. Each manager has valuable insight into their daily operations and what improvements would increase productivity.

They should know their staffing needs and any special requirements. These typically include meeting frequencies and sizes, delivery and storage requirements, preferred departmental adjacencies as well as access, and security requirements.

Director of Engineering

The impact of engineering on immediate and long term costs and ease of accommodating the move cannot be overemphasized. The primary role of the Director of Engineering (D of E) is the design and specification of broadcast equipment. The D of E works closely with the design team to assure that all has been accommodated.

While predominantly focused on the studios, integration, and technical operations center, the D of E’s role is occasionally expanded to include IT, phone, and security systems.
**Interested Staff Members**
People feel more connected to projects with which they are directly involved in the development. Staff members who are interested in taking part in the planning process offer valuable insight into important needs and desires of which managers are often unaware.

**Controller / Head of Accounting**
Involving the people that control the budget can potentially speed up the project.

**Representative from Headquarters**
Is your organization part of a larger infrastructure, corporation or institution? Typically, a member of the corporate Real Estate and/or Legal Department would participate in the initial discussions to help keep the focus on the corporate approach to a major renovation of new construction undertaking.
Consulting Professionals
Retaining the right professional team, from the outset can make your job a lot easier. Experience indicates this will lead to a better end-product. The more you hire out, the more your staff can focus on their current work. It is not always cost-effective to do work in-house.

The following list describes the majority of consultants usually retained for a radio station project. Other specialists may be needed per specific needs, dependant upon the scope of the project.

- Architect
- Engineer
  - MEP
  - HVAC
  - Structural
- Consultants
  - Acoustic
  - Lighting
  - Furniture
- Real Estate Broker
**Architect**

The architect should be hired early on in the process to determine space needs and help coordinate questions and issues of zoning and general site suitability. It is common practice to interview qualified architects prior to retaining one for the project. The ability to fully understand and coordinate all aspects of the project – from site selection, budget development and technical needs to finish selections and construction coordination – is critical.

While direct experience with the broadcast industry is not absolutely imperative, it certainly helps to have a professional with a background in problem solving of this type, as the team considers a variety of locations, financing, and scope of construction options.

**Engineers - MEP, HVAC, Structural**

The engineering consultants make building’s systems work. The station must support induced loads, be cool in the summer, warm in the winter, and have enough electricity to meet operational demands. When moving the station is the task at hand, the consulting engineers may be involved early to evaluate the potential site’s existing systems. Their input will identify problems, verify opportunities, and confirm the viability of each option. Chapter 8 looks into this in greater depth.

During the design phase, having engineers with broadcast facilities experience is a plus; however, the project may also be well served with professional engineers who are experienced with the specific tasks at hand.
Acoustical Consultant

Studio sound quality is crucial to your project, and hiring a consultant with this expertise is essential. When considering a new site in close proximity to a noise source (planes, trains, and automobiles), the acoustical consultant will often make preliminary recommendations that address sound source and attenuation issues. During the design phase their role often includes establishing the acoustical design criteria, ambient sound levels, and the design of attenuation assemblies. (Please see Chapter Eight.) When interviewing acoustical consultants, experience is the priority. Typically the Architect coordinates this aspect of the project.

Lighting Consultant

Lighting fundamentally establishes how the station is perceived. Whether illuminating an office, studio or the exterior of your facility, the lighting should be effective, dramatic, and efficient to operate. The lighting consultant should carefully consider who will be occupying the space, how it will be used, and for what period of time. They should also have a good working knowledge of lighting products, controls, and the willingness to prepare options that balance aesthetic, maintenance and operational concerns which stick to the budget.
Furniture Consultant
The furniture consultant provides several key services to the project. Initially they survey and evaluate existing furnishings. The typical categories are what should be re-used or re-furbished and what furnishings are well beyond their life expectancy. Working with other team members, this information is incorporated into the furniture design and the overall budget.

Apart from generating and administering furniture specifications and proposals, one of their most important roles is establishing what goes where, and orchestrating move-in day.

Real Estate Broker
The real estate broker is responsible for identifying location options within the market. Their task is to set out opportunities – buildings, sites, comparative costs – that satisfy the requirements established by the project team.

Typically their fees are paid by the landlord or seller as a percentage of the total deal. Other payment options include hiring the Real Estate Broker on a fixed-fee or hourly basis.
Design and Photo Credits

p ii  Early Image of KDKA, c. 1922
KDKA
Pittsburgh, Pennsylvania
Source: KDKA Archives

KPLU Proposed Studio Rendering
KPLU at Pacific Lutheran University
Tacoma, Washington
Source: Bloomfield & Associates, Architects

p iv  Radio Station Sketch
KPLU at Pacific Lutheran University
Tacoma, Washington
Source: Bloomfield & Associates, Architects

p vi  Early Massing Study
Cox Radio
Long Island, New York
Source: Bloomfield & Associates, Architects

p viii Concept Watercolors
Entercom Communications
Denver, Colorado
Source: Bloomfield & Associates, Architects

p x  Early Image of KDKA, c. 1922
KDKA
Pittsburgh, Pennsylvania
Source: KDKA Archives

Equipment Racks
Entercom Communications
Greenville, South Carolina
Source: Bloomfield & Associates, Architects

p xii Massing Options
KPLU at Pacific Lutheran University
Tacoma, Washington
Source: Bloomfield & Associates, Architects

p 06 Team Work Space
Entercom Communications
Kansas City, Kansas
Source: Bloomfield & Associates, Architects

p 09 KYW Concept Sketches
CBS Radio
Philadelphia, Pennsylvania
Source: Bloomfield & Associates, Architects

p 10 Meeting with Key Staff
KPLU at Pacific Lutheran University
Tacoma, Washington
Source: Bloomfield & Associates, Architects

p 12-13 WYSP Rendering
CBS Radio
Philadelphia, Pennsylvania
Source: Bloomfield & Associates, Architects

a face for radio
Typical Project Phases

- Project Definition
  A. Program Development (see chapter 2)
  B. Site Selection (Stay or Move, chapter 3)
  C. Initial Budget (see chapter 5)
  D. Schedule (see chapter 8)

- Project Design
  A. Schematic Design
     the initial design phase, variety of design ideas, schemes are explored
  B. Design Development
     once a design direction is selected, the phase further develops the design to a more detailed level
  C. Construction Documents
     Development of drawings and documents for construction, implementing code requirements, wall details, etc.

- Bidding and Construction
- Move-In