

**W**hile many companies pulled back in the recession, we made it an opportunity to review our operations and reaffirm our mission. We went “back to school” to learn the latest in manufacturing technology and quality management. Even though industry surveys consistently rank us highest in customer satisfaction, we are committed to continuous improvement in all areas of our business.

We also continued our aggressive Research & Development program, as evidenced by the new Productionmixer, ADX Digital Audio Workstation and ADX Mixstation featured inside. At NAB Montreux we announced the opening of the Pacific Recorders/Europe office in Germany, which will provide close support to our European broadcast representatives.

Last October, we had the opportunity to work with the Promotions and Broadcast Operations groups at Walt Disney World as they produced their 20th Birthday Surprise Party. It was great to see so many U.S. and international broadcast friends, and I particularly enjoyed working at the Radio Studio where we hosted several of the more complex shows. It was fun to run a board again; there’s no substitute for hands-on time to polish new design ideas.

And finally, the last installment of Al D’Alessio’s article on the Radio Facility Design Process appears inside. To say it’s been very popular is an understatement. We’ve received countless requests for the last two issues, which are completely gone, and even for photocopies of the rough draft of this issue’s installment!

*Jack Williams*  
 Jack Williams  
 President, PR&E

## REMOTE BROADCASTS FROM THE LANDS OF “PIXIE DUST”



*New Year's Gala at Walt Disney World*

## A BROADCAST NEWSLETTER FROM PACIFIC RECORDERS & ENGINEERING #12

**I**t’s true, some designs do begin as sketches on restaurant placemats; in this case, in New Orleans during the NAB Radio Convention. Over what began as a social lunch, the promotion wizards from Disneyland and Walt Disney World defined the need for an elegant transportable broadcast system. While a draped table with the ubiquitous Shure mixer is sufficient for many remotes, a formal system with a strong design theme would allow the remote to become an event. For example, the accompanying photos



*Unistar's Mike Harvey Interviews Tiny Tim*



*ABC's Dick Bartley live from Disneyland*

show the new systems in use at the New Years Eve Parties in California and Florida. By the end of lunch (service was that slow), we had developed a functional layout sketch on placemats along with design and functional criteria!

- To minimize disruption of park operations, all elements would be housed in roll-around carts and designed for fast set-up and tear-down.
- Transport cases would be designed so that technical equipment could be transported and used independently of the stand.
- The structure would be of substantial, yet light-weight, modular construction. However, it could not present the appearance of being a "knock-down" assembly.
- Unlike table-top remotes, the work surface would be designed for "stand-up" operation to provide eye level contact between broad-

cast personnel and park guests. For key events, the system would be placed on risers or a stage.

- All technical components must be stylishly housed and the supporting electronics hidden within the work counter.
- The system would include its own halogen lighting system in the canopy truss and a light box for graphics.

The layout plan is an eccentric "T", with the technical equipment and operator on the short side, and two guest/talent positions on the other. The system supports three microphones, two Micromax cart decks and a pair of Studer CD players. Headphone level control and jack panels are recessed in the countertop's apron, and the guests' mic control panels are recessed into the work surface. Heavy-duty studio mic arms, instead of desk stands, help complete the "comforts of home" feeling for the talent. Stereo mini-monitor

#### *System transport cases*



speakers, used for local area coverage, are installed in the front corners of the overhead canopy assembly.

The console is a "Disneymixer", which is a customized Stereomixer incorporating headphone monitor mix facilities for station communication and foldback. The Disneymixer assembly simply drops into a cutout in the countertop and contains both the machine control interfaces and the system interconnect panel.

# PRODUCTIONMIXER

**P**roductionmixer is the newest console in our “mixer-class” series and the companion to the Radiomixer on-air console.

Productionmixer’s design retains all of Radiomixer’s on-air features, making it an ideal back-up on-air console, and adds impressive production capability with multi-track buses, stereo effects sends and returns, and advanced equalization facilities. The shared on-air features, including a standardized control layout, make it easy for operators to move between an air shift and production.

By utilizing the same advanced electronic design and manufacturing technology developed for Radiomixer, Productionmixer delivers a wide range of features and impressive performance at a very efficient cost.

*The console is supplied standard with:*

- Telco Mix System with On-Line, Off-Line and Tape Feed mixes
- Two Stereo Program Outputs
- Selectable Monaural Output
- Two Stereo Auxiliary Send Outputs with distribution amplifiers
- Two Stereo Effects Return Inputs



- Stereo Program-1, Program-2 and Auxiliary VU meters, plus eight Multitrack Input/Output VU meters
- Control Room Monitor with Meter Switcher
- Stereo Cue (PFL) with built-in stereo cue speakers and automatic metering
- Stereo Solo (AFL) with automatic metering
- Digital Timer with Timer Control Panel
- Digital Time Of Day Clock, slivable to master clock time code
- Spare Parts Kit, Connectors, Tools and Manual

Productionmixer is available in two mainframe sizes, which will house 20 or 28 input modules; either frame will support up to eight multitrack input/output modules.

In place of traditional reel-to-reel multitrack modules, Productionmixer can also accommodate the new ADX Multitrack Mixstation, described in the adjacent article, to provide all the creative advantages of a multitrack digital audio workstation coupled with console setting recall, reset and dynamic mix automation; a first for broadcast production!

A new full-color brochure is available that describes both mixer-class consoles in much greater detail. To receive a copy, simply check the request box on the reader reply card.



## ADX The Next Generation of Digital

The benefits of digital audio workstations are well known and include non-destructive editing, cutting, copying and pasting, editing in the time domain, no copy losses and digital quality sound.

The limitations of first generation workstation technologies are also well known. The few truly professional multi-track units were developed for the video and film industry with little, if any, regard for complexity or cost. The many lower cost, and sometimes easier to use, alternatives have been “card-in-a-PC” designs where the

constraints of the host computer limit their features. In neither case was this generation optimized for the creative, fast and furious demands of broadcast production.

Instead of simply designing yet another workstation, we applied our systems design expertise to analyze and address the real-world of broadcast production: a world where time is of the essence, change is the rule, last-minute is routine and creativity is the competitive edge.

A console is still the best physical place to control, assemble, process, mix and monitor all the various production elements. A digital workstation, like its reel to reel analog predecessor, is the best place to record and edit. The ADX System fulfills both aspects of this interdependent activity with

two components, the ADX Workstation and the ADX Mixstation. The Workstation is a very powerful multitrack recorder/editor while the Mixstation brings the creative advantages of moving fader and snap-shot automation to the console.

However, the Workstation and Mixstation can operate independently of each other. The user can start with the Workstation connected to a manual console and add the Mixstation in the future. Even as an integrated system, the Mixstation can be operated in the manual mode to support existing work from an analog 8-track tape recorder.

*Here are a few highlights:*

### ADX Workstation

- Self-contained roll-around unit, similar to the size of a studio grade professional tape recorder.
- Control panel with illuminated buttons for each of the most commonly used functions, including “transport” and auto-locator controls, editing and crossfading functions, status for each of the 8 tracks. A scrub wheel and mouse are built into the work surface below the control panel.
- Keyboard in a convenient slide-out drawer for entering soundfile and mix names. Editing functions are also available as keyboard commands for those who prefer this mode of operation.
- Full 8-track simultaneous recording and playback capability, not virtual tracks.

The completely digital audio implementation includes an AES/EBU Input/Output for each track.

- 4 track hours of recording time are standard and can be expanded up to 16 track hours. Disc-based storage provides recording and editing of long format work.
- Magneto Optical Disk option offers work portability and convenient back-up.
- Built-in SMPTE time code generator/reader and MIDI interface.
- Macintosh computer based for superior editing graphics and ease of use. The Macintosh is used only for control and display; the signal processing hardware is contained in its own package.

#### ADX Mixstation

- Mix fader, channel on/off, pan, stereo solo, effects sends and three-band parametric equalizer for each of the 8 tracks.
- Dual 8-character readouts, located above each mix fader, display the names of the current and next sound element for that track.
- Proprietary digitally controlled level and equalization circuitry offers the highest level of sonic performance; no VCAs.
- Moving fader automation effortlessly and intuitively handles complex mixes and updates. Faders are equipped with touch sensors for modifying a mix and

Mix-Merge™ for automatically rejoining the prior mix setting.

- Automated recall/reset of pan, on/off, sends and equalization settings for each sound element.
- Installs into either the ABX or Productionmixer console, occupying the same panel space as eight standard analog multitrack I/O modules.

Check the ADX box on the reader reply card for additional information.



*ADX workstation*

## THE RADIO FACILITY DESIGN PROCESS

Alfred W. D'Alessio  
President  
Northeastern Communications Concepts  
(NCC) Inc.  
New York City.

“Yes, I’ve read the articles in AIRCHECK #10 and #11, but I need some guidance on how to get a start-up operation going on an extremely tight budget. Can you help me?”

This question is typical of two recent inquiries and implies that our discussion of project planning is relevant only to large, established broadcasters with equally large budgets. Nothing could be further from the truth, especially during trying economic times.

If you consider our project planning recommendations a luxury and an expense your station cannot justify, we haven’t made our point. Whether you intend to erect the world’s tallest sky-scraper, or simply sell hot dogs and lemonade from the back of a Stepvan, you need a business plan. And all business plans, whether they’re scribbled on a paper napkin or contained within “gilt-edged cordura leather bindings”, do exactly the same thing: they estimate the return on investment. It is wise to consider any venture without a business plan as a hobby.

Remember, a business plan is only a reasoned estimate and not a guarantee. It is a projection of probable costs debited against probable revenues. The more accurate the projection, the less is the risk. While estimating revenues accurately is a difficult task, it's more glamorous and self-satisfying than sweating over the investment side of the balance sheet. This explains why so many plans succumb to cost overruns—a sad commentary when historically cost control is easier to achieve than meeting revenue goals.

So, the hot dog vendor intends on investing his life savings into his start-up enterprise and the real estate mogul will raise his half-billion dollar stone and glass monument on the backs of his investors. Is a carefully drawn business plan more important to either one? And if costs spin out of control, who would you rather be? If you're the little guy in broadcasting, hedge your bet by putting a business plan together. Do everything in your power to accurately and realistically define the investment ahead of time.

Don't confuse investment planning with simply pulling in all the reins on spending, as you may be subliminally covering up for a project you cannot afford. For obvious reasons, we refer to this as the Ostrich complex, where the venturer suspects that his resources are insufficient and finds "vicarious security" in not heeding the message of an honest business plan.

Controlling costs is what this three part article is all about; for every dollar you spend on careful planning, you will save at least two dollars by the ribbon cutting ceremony. That's a good return on investment; take advantage of it.



## V. BIDDING AND CONTRACTING.

This phase is the acid test for determining how close the project budget prepared by the design consultants matches the scope of materials and work from the point of view of one or more contractors.

If you have previously established a good working relationship with a reputable contracting firm, the plans, specifications, and general conditions may be issued to that firm at a negotiated price.

On the other hand, if you are like most broadcasters, your knowledge of whom to trust in the construction field is very limited. The best approach in this instance is to issue a full set of plans, specifications, and conditions to a field of four or five contractors as the first step in competitive bidding. The process of evaluating the bids yields no guarantees, however, here are three tried and true tips from the industry trenches to help you make the correct decisions during this phase:

1. If there is a large cost spread between the highest and lowest bidders, chances are the contractors in the bidding field are not all interpreting your design documents the same way. If the spread is 25% or larger, have your prime consultant review the project with the contractors to make sure that each has the same understanding of the scope of the project.
2. Reject the lowest bidder, especially if the bid is too good to be true. Seeking out the lowest bidder for a contract is the number one cause of run-away costs in government procurement. Given the choice, whose business practices would you prefer to emulate, Uncle Sam's or a Fortune 500 company's?
3. If the bid returns are all higher than projected, there are problems in the plan which must be addressed before proceeding further. Find out why, then rework the plan and/or adjust the scope of the project, making sure that you have at least a 5% contingency reserve to cover

the unexpected. Do not attempt strong-arm negotiations as a way to force down prices to fit a troubled plan. Taking the profit incentive out of a job is the fastest way to encounter the wrath of a contractor when he encounters the slightest difficulty on your project.

Whether you elect to bid or negotiate during this phase, the contract you will sign with a construction firm will be one of two basic types. "The most common form places a construction firm in the role of a General Contractor (commonly known as a GC), and is referred to as a General Contractor Agreement." In its simplest form, the agreement specifies that in return for cash or a barter, the General Contractor will provide your station with all the labor, materials, and supervision to carry out the construction documented in the plans. The financial arrangement of compensating for the cost of construction is subject to negotiation. It could be a fixed or stipulated sum; a percentage over and above the payments made by the contractor for his sub-contractors, labor, and materials; or practically any other deal mutually acceptable to both parties.

If you have followed our planning recommendations up to this point, the most controlled basis for compensating the General Contractor is the stipulated sum. Paying the GC a percentage over his costs is commonly known as "cost-plus" compensation. Cost-plus deals are usually employed in "fast-track" projects, where the plans and specifications are incomplete and are developed during—instead of prior to—the start of construction. The combination of fast-tracking and cost-plus compensation is the only basis to retain a General Contractor if the plans are insufficient to indicate the entire

scope of construction he must undertake. Employing this method may sound efficient, but it is best left to emergencies and procrastinators. There is virtually no cost control in this arrangement since there is no incentive for the contractor to be efficient once the deal is signed. It is analogous to handing the contracting firm a blank check.

As an alternative to hiring a General Contractor, you may wish to consider a Construction Manager (CM) instead. You actually hire the same firm to perform the work of either a GC or a CM, with the difference centering on who pays whom. A Construction Manager performs virtually the same duties as a General Contractor, but he is compensated only for services performed by his firm. This usually includes negotiating contracts with carpentry, electrical and mechanical contractors on behalf of the station, in addition to scheduling and supervision of the ensuing construction. Under a construction management agreement, the station pays the contractors directly instead of through a GC and pays the CM a fee for coordinating and managing their work. There are no sub-contractors in a CM arrangement. Because a CM can propose the cost of his services and the cost of your bidding and negotiating process, cost control remains in full effect.

There are scores of trade-offs to consider when trying to decide between a GC or CM arrangement but, surprisingly enough, price isn't one of them as the costs usually work out to be the same in either type of contract. The primary difference is control of the project and its management. Under a construction management contract, the station has direct bargaining power with the sub-contractors because it pays

them directly and the construction manager is relieved of the (traditionally accepted) conflict of interest stemming from a General Contractor's financial obligations to his subs. This can be important when it comes time to negotiate any changes to the contract plans or specifications which may be necessary during construction. The reverse side of this advantage is a clerical one. The station becomes more responsible for determining progress payments for the contrac-



tors by tracking the progress and quality of the job. While the architect or prime consultant can assist in these matters, the ultimate responsibility is the station's. For this reason, we recommend against Construction Management contracts unless the station can rely on professional, in-house construction experience. Such experience is usually found in station group ownership, where the parent company retains a facilities department for developing office and technical space. Prior broadcasting or acoustical experience is not a pre-requisite for the administration of a construction management agreement, if the plans and specifications are sufficiently complete, detailed and accurate; however, extensive experience in construction finance is an absolute necessity.

## VI. CONSTRUCTION

While it may appear to be the most demanding part of a project, the construction phase is simply the most physical. If you have followed the guidelines which lead up to the construction phase, there will be less for you to do at this point than at any other time in the project. Yet it is during construction that all the horror stories about rip-offs, delays, and disputes between the station, the contractors and the designers arise. If you haven't guessed by now, virtually all of these difficulties arise as a consequence of poor planning, which destroys the chances of maintaining a professional relationship with the contractors and vendors.

It is important to appreciate that contractors are not in business for their health, and that they conduct business the same way you do. They fully intend to cover

their expenses and make a profit in return for their participation in your project.

Here are the six most prevalent mistakes made in station/contractor relations:

1. Selecting a contractor on the basis of cost alone. This is such a common error, we've made it mistake number one. Prepare for the bidding and negotiation phase by ascertaining a contractor's references. His track record for reliability, workmanship, timeliness and ability to contribute to a highly technical and detailed project should be established before he submits a quotation.
2. Assuming that your enthusiasm for broadcasting will in some way engender special treatment from a "star-struck" contractor. There's no doubt about it, broadcasting is a highly visible and prestigious industry. While every owner feels his project bears special attention, the contractor will provide the same quality of attention and service as is his custom on any other project.
3. Negotiating the contractor's profit out of a deal. You can haggle over the price of a commodity, like a car or a computer, and still receive the same product. But if you beat up the contractor at the bargaining table, he may feel justified in being unresponsive during construction; you could also find the factors important to your project were bargained away along with his profit incentive. The first benefit you lose will be the timeliness of your project, as the contractor relegates your work to the bottom of the priorities list.

4. Forgetting to use your sales experience while negotiating. Remember, a contractor wears many hats, including sales. He wants to close the deal as early as possible, even before you have tied up all the loose ends which could cost you later. Don't close until you and your project are ready.
5. Allowing insufficient time for construction. Contractors are asked to rush every job. But there is only one pace at which the job can be completed efficiently. As soon as the construction cart moves ahead of the planning horse, work begins to proceed out-of-sequence. Eventually, more time and money is spent to get the project re-coordinated.
6. Failure to monitor the progress and quality of construction in terms of plans and specifications. When you sign the purchase order for a hundred AA carts, there isn't much to do until they're shipped to your station. As a commodity, their manufacture is a well-defined process, and any defects can be remedied by returning any units which don't meet specifications. But how do you return a sub-standard control room or studio? The further a contractor is allowed to deviate from the plans and specifications, the more difficult and expensive it becomes to put the project back on track.

At the end of the construction phase you'll have the new facility you wanted for the price you can afford...but only if you've rolled up your sleeves and properly applied the basic principles we've outlined in the last three issues of AIRCHECK.



## VII. DOWN THE TUBES

If you're still tempted to wing it, let's take a look a how easy it is to throw away \$17,000. All that's needed is a lack of appreciation for planning. To illustrate, let's return to the final chapter of our hypothetical Z-109 project. We'll track a change in the planning of Z-109's main On-Air control room at three different stages of the project.

Assume that the original concept for the control room was to accommodate a single DJ, and the change to this plan requires the addition of seated microphone positions for three guests. Before any time has been invested in the design or construction of the Z-109 project, the change can be accomplished for its intrinsic value of \$9,500. The first five lines of Table 1 indicate what each component of the change is really worth and totals the intrinsic value.

The cost of incorporating this change any later in the project will be higher and will continue to increase against time through to the end of the project. Here's why.

At the end of the design stage, the Z-109 control room was planned as shown in figure 1. Notice that the electrical distribution room prohibits the arbitrary expansion of the control room to create the additional space required. Figure 2 illustrates the most practical solution as the control room was expanded by moving the power room across the hall into part of the pantry/lounge space.

To incorporate the change after the plans for Z-109 were completed and approved by station management, the designers will charge an additional fee to compensate for the time required to revise their work, as follows:

First, the architect will have to:

- Re-draw the floor plan
- Revise the ceiling, lighting and elevation details
- Relocate the planned power and phone outlets
- Redistribute the revised drawings for station re-approval
- Redistribute the approved revisions to all of the consultants

Then:

The electrical engineer will revise the plan indicating the new routes that all the electrical conduits and feeders will take to and from the new power room. The mechanical engineer will re-draw the new locations of the ductwork, ceiling registers, sprinklers, plumbing, and appliances for both the new control room and the pantry. Both engineers will have to coordinate their placements to avoid claiming the same space for their devices. The broadcast systems engineer will revise the wiring and patching flow charts to accommodate the new microphone, headphone, and logic circuits.

Finally:

The consultants will charge for working overtime since the station demanded all of this needed to be done by yesterday.

Intrinsic Value of Change:	
Three more microphones	\$1,500.00
Expanded Console	\$3,900.00
Additional Circuits	\$925.00
Bigger Cabinetry	\$1,240.00
Larger Control Room	\$1,935.00
<b>Total</b>	<b>\$9,500.00</b>

TABLE 1: Intrinsic Value of Change



FIGURE 1: Original Floor Plan

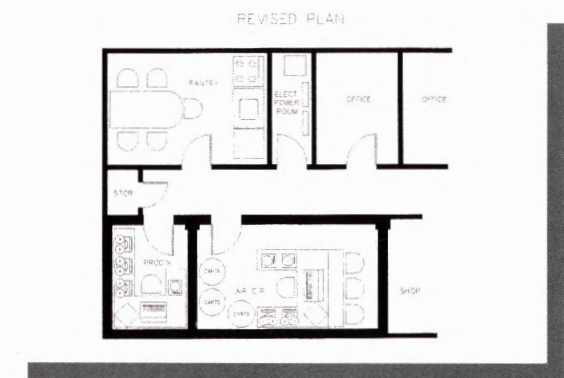


FIGURE 2: Revised Floor Plan

## Cost of Change at End of Design Period

Intrinsic Change Order Value	\$9,500.00
Redraw Floor Plan	\$200.00
Revise Ceiling Tile Plan	\$200.00
Revise Wall Treatment Elevations	\$200.00
Revise Lighting and Power Outlet Plans	\$200.00
Re-engineer Electrical Feeders and Conduits for New Power Room	\$600.00
Re-engineer HVAC Ductwork, Silencer, and Grille locations	\$400.00
Additional Customer Meeting	\$200.00
Re-design Cabinetry	\$250.00
Reprographics and Distribution Expenses	\$50.00
Incorporate Additional Circuitry in Wiring Drawings and Run Sheets	\$200.00
Overtime Fees	\$1,000.00
<b>Change Order Total</b>	<b>\$13,000.00</b>

TABLE 2: Cost of Change at End of Design

TABLE 3: Cost of Change During Construction

## Cost of Change at 30% of Construction Completed

Intrinsic Change Order Value	\$9,500.00
Designer's Fees	\$3,500.00
Demolish Base Control Room and Pantry	\$1,000.00
Contractor's Premium	\$5,000.00
Re-fabricate Cabinetry	\$1,000.00
Console Re-stocking Charge	\$1,500.00
Wasted Rent (Construction Delay)	\$5,000.00
<b>Change Order Total</b>	<b>\$26,500.00</b>

Table 2 sums these charges with the intrinsic value as the cost of the change at the end of the design period. The net result of accommodating this change order at the end of the design period is \$13,000 for a \$9,500 job. That's \$3,500 down the drain since the return on this added investment is ZERO!

Now assume this same change order occurs right in the middle of construction. To the uninitiated, it seems simple. Just swap out some of the pantry area for the additional space needed in the control room. But now, in addition to re-design fees, this eleventh-hour change incurs even more financial waste.

Because construction has already begun, portions of both the Control Room and Pantry will have to be demolished and rebuilt. The cabinet shop, which had finished the control room furniture, will have to remodel or rebuild it to add the guest area. The equipment manufacturer will require a restocking fee because custom modifications made to the original console are no longer

valid. The general contractor, realizing that he underbid the project on account of poor planning, is going to charge a hefty premium on this and any other change orders to cover his expenses and realize a profit. (And since the contractor is no longer in a competitive situation, and management's back is to the wall to get the project done ASAP, the station pays.) While all this is going on, the rent clock is ticking away at Z-109's old and new locations.

Table 3 totals up the damages at \$26,500 for \$9,500 worth of work. This is tantamount to leaving \$17,000 in unmarked bills on a Central Park bench during a panhandler's convention! It's gone forever.

## THE DESIGN TEAM

It will take a team of professionals a period of several months to properly plan the integration of the myriad components which will become your new facility. Then it will take a team of carpenters, masons, mechan-

ics, and technicians to build it. Someone will have to oversee the effort to assure that your requirements dovetail with the selections of a site, equipment and budget. Without good project management organization, the communications vital to the success of your project will suffer.

All too often, what should be project management becomes crisis management, as shown in figure 3A. The best way to describe a set-up like this is haywire. Communications may not reach some individuals, others may receive second-hand or conflicting information. Not only is there no way to ascertain who knows what, but the contractor has no idea who's in charge. The best set of plans in the world can't overcome this kind of chaos.

The most efficient manner to handle the communications between all parties involved in a radio station project looks something like figure 3B. It is broken into three broad categories: Decision/Management is

the individual or group at the station actively involved in the day-to-day progress of the project. The Design/Administration team is composed of the professionals responsible for the design of the facility and the communications among all parties. At the Construction level are the contractors who will build your new facility.

The chart in figure 3B is representative of a fairly aggressive undertaking and may be set up differently as dictated by project size and complexity. The Project Manager's role may be a dedicated position, or may be undertaken by the Chief Engineer or another qualified individual on the station's staff. By qualified we mean that he or she must be conversant with both the business and technical aspects of radio station operations, must have the authority to approve and make changes, and must be available 100% of the time during the project. This is not a position for the station fix-it man.

The Prime Consultant's position may be undertaken by an Architect, Space Planner, or Broadcast Consultant. In addition to in-depth experience in design and construction, his or her qualifications must include a thorough understanding of radio station business and technology along with 100% availability. Never allow the uninformed to learn your trade on your nickel. Remember, this is a position of trust. If you can't discuss the intimate details of your station's business plans and financing comfortably with your prime consultant, you've picked the wrong person.

Both the project manager and the prime consultant should be a part of the project from its inception during initial budgeting through to the substantial completion of construction.

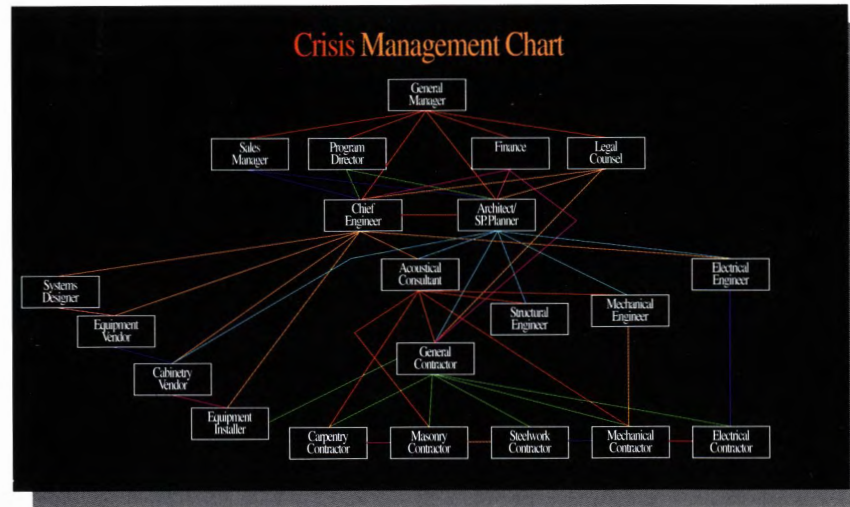


FIGURE 3A

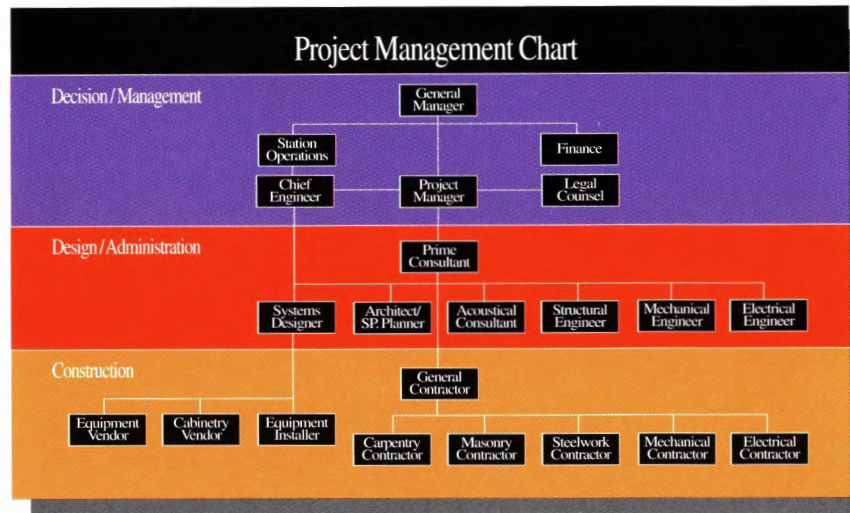


FIGURE 3B

This concludes our three part series on the financial planning and administration of broadcast construction projects. If you have any questions relevant to the series or an upcoming station project, feel free to call either PR&E at (619) 438-3911 or NCC at (212) 972-1320.

*A guide for estimating studio construction costs is available from PR&E. For a free copy, check the box on the reply card.*

# SOUNDING BOARD

## Reply Card Comments and Suggestions:

**Q** Studios are great, however, how about Engineering Room and rack layouts; wire runs and so forth?  
*Tom Holmes*

**A** Good idea! We will look through our project files to see if we can pull an article together.

**Q** In tight money times, an article on updating older studios and control rooms.  
*Blaine T. Hanks, KRBM*

**A** It's nice to hear the desire for improvement, with little or no budget, remains alive. While it may seem strange for an equipment and systems manufacturer to say this, there are many areas where creativity and "sweat equity" can yield significant improvements. We would appreciate a lead from our readers on the kinds of updates we should address.

**Q** Please do a swimsuit issue!  
*Bill Defabio, WEEP/WDSY*

**A** This is a first! However, if you send us your picture wearing a politically correct swimsuit, we might think about it. It would also help if the picture included an appropriate technical backdrop.

**Q** Please send copies of issues #10 and #11.

I loaned issue #10 to a friend and he says he lost it.

Issue #10 must have become lost in the mail, please send another.

Are you planning to reprint the facility design series?

**A** First, we are completely out of both issues. Second, Al and I presented a program on project management at the NAB Radio '91 Convention and found management attendees were focused on the "How To Survive In Tough Times" seminar across the hallway. Therefore, we just might

pull the three parts together and reprint it as a booklet. As publishing is an expensive exercise, please let us know the level of interest.

**Q** Which issue has the XLR pin wiring article in it?  
*Dan Greer, WDZZ/WFDF*

I need the back issue concerning XLR connectors.  
*D. Hampton, WYCA*

**A** Unfortunately, it is the much desired and out of stock issue #10. However, the 1992 January/February issue of the Journal of the Audio Engineering Society includes the new "Application of connectors, part 1, XLR-type polarity and gender" specification AES14-1992 (ANSI S4.48-1992). Incidentally, pin #2 won!

### ROUTE TO:

- CHIEF ENGINEER
- PROGRAM DIRECTOR
- GENERAL MANAGER

- PRODUCTION DIRECTOR
- OTHER



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