

# RENOVATION OF A NON-TRADITIONAL PERFORMANCE SPACE

Author Unknown

If you have 15' of headspace, and want to keep the capacity under 100, you don't need very much to make a space. On an 8" rise, for instance, you've got enough height for 6 rows of seats with 11 feet overhead, allow 3 feet for lighting fixtures, and you're still left with 8 feet for audience clearance. At 2' of width per seat, and allowing for two 4-foot aisles, 40 feet of width will get you 16 seats per row, six rows will get 96 people in a proscenium configuration. However, if you break the risers up into units that will hold, say, 12 seats each, that's 8 units, each with maybe 3 rows of 4 seats, you've got the potential for an arena with 24 seats on a side, a thrust with three banks of 32 seats, or an alley with two banks of 48. Cover the ceiling with a pipe grid at about 14'-8", very comfortably (and safely) worked on from a good 12' ladder or small painter's scaffold, and you've probably got the potential for giving the vast majority of your audiences (and actors, directors, designers, etc.) an experience in spatial relationships that the majority of them has never had.

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Make up a detailed list of what's going to be happening in the space. (Musicals, straight plays, concerts, what kind, how big, etc.) Create a wish list of what you want to be able to do. Even with only 15' you're going to have some rigging. That term applies to hanging anything - lights, curtains, etc. You just won't have a fly loft. So you may also want to get a structural engineer out there to insure the integrity of the roof supports once a bunch of theatre things are hanging from them.

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Make the seating arrangements flexible. You can get seating rostra which fold up and come on wheels. This gives you the choices of doing shows on a thrust stage, and end stage, in-the-round, or whatever zany stage form your designers come up with.

Rig a pipe grid as high as you can. And, make sure that the roof structure is strong enough to support it, and all the lanterns and anything else you may want to hang. Fit permanent socket outlets, and cable them all back to a patch panel, where the dimmer outputs appear. Install as big a power feed as you can afford. Ours, in the UK, has 60A three-phase. Modify the numbers for where you are, and add extra capacity if it's available. Think about alighting and sound control position. We normally build a tower with a patent scaffolding system which can be assembled with a hammer, and nothing else. This allows for flexible location, if you install sufficient connection points. If your control is DMX, you will need a DMX patch panel, too.

With only 15' of height, you need to go for low-power, wide-angle profiles, and fresnels.

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I love an open space with a pipe grid overhead that's easily reachable from a rolling scaffold. Preferably a nice 8' (or less) spacing on the grid, so I can reach points relatively easily. And a nice stock of 10' pipes with pipe clamps so I can put pipes where I want them. Oh, and a nice stock of 10' wide black legs...and some 12" and 24" borders. Play with some staging layouts, use those to figure out how many drapes you'd need, and then order 15% more!

And I really like to see some money spent on infrastructure going in - more electric service than you strictly need (and separate audio and lighting/utility services if possible) - that way you can always rent added kit as you need it. It may also open up the possibility of renting the space out as a potential profit center.

Probably more multi-core's (as opposed to hard wired lighting circuits) than you have dimmers for. Dimmer per circuit is ideal, but the budget crunch always hits - so figure out where you want circuits and buy the multi. You can always change the patch (patching is easier than adding circuits), or add dimmers, or rent more. And multiple DMX outlets around the room (and at the pipe grid), all leading back to a simple distribution panel - short cable runs are easier to deal with than long ones, and you never know where you might want to put a DMX controlled device. Oh, yeah - and some plain old 20A circuit around the room and in the grid for various and sundry powered equipment.

Same concept with audio inputs and outputs - I like having the remote locations fed back to a simple distribution panel in a case like this - it saves running cables out, and it is a lot cheaper than a sophisticated matrixing router. In general, a nice, basic pattern of signal distribution to each of the 4 walls (at floor level and at the grid) for both lighting and audio is a wonderful thing.

Ohhhh - and storage space (there's never enough) - especially some locking storage for your expensive toys. And a loading door!!! Everybody seems to forget this one - and wouldn't it be nice to have a door large enough to bring everything in? like that car the director decides would make a cool set piece...

Code issues are always "interesting" - maybe it would be worthwhile to find out if your board has any architects on it who could give the plans a quick "once over"? Even if you have to hire it done, a good architect can be worth a whole lot in getting the conversion done with a minimum of hassle. They can pay for themselves in just easing the pulling of permits.

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We hung 48 of our circuits in boxes of 6 with a 24' feeder cable. We can then move these 8 boxes anywhere the cable allows. Adds a great deal of flexibility if you have one particular area that has an overabundance of instruments.

I wish that I would have done all 96 circuits that way. But, oh well. Locate your dimmers somewhere where any fan noise of 60 cycle hum can't be heard by the audience.

We have a 400 amp breaker just for the electrical. All circuitry for the sound equipment comes from separate breakers. I am very happy with our dimmer-per-circuit setup. The ETC system has performed flawlessly for two years.

Get an RFU (remote focus unit) if you can. It saves time if you are working alone in the theatre focusing lights. No long walks up to the booth.

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Here's the situation where I work... I have a platform with a dead-hung grid above it. There is no proscenium to speak of. If my grid and roof can hold the weight, I could hang a flame retarded drape to use as an act curtain and toms, sort of a fabric false proscenium... I would recommend that, if you go this route, you get your main drape rigged as a Venetian (your local supplier can explain how this would work in your situation. By not having a proscenium, you get away with a lot shorter list of fire rules. My opinion on this is quite the opposite from what I work with... I like a solid proscenium, but if you're renovating, that may be nearly impossible to have built properly. The rule, as I remember it from a conversation with a professor back east who was serving as the liaison between his university and the crews building their new theatres, is that you have to have a fire curtain behind a real proscenium, and the proscenium wall is a fire-rated wall. There can be only 3 openings that go from the audience to the back-stage area, and all of them must have some sort of method of closure in case of fire. This includes access to FOH lighting positions, a basement access to the orchestra pit, and the proscenium opening itself. So, if you have a proscenium, you get three passes through it, one of them being the proscenium opening itself, which must be protected by a fire curtain. Your orchestra pit access from the basement will be a second one, and a grid/lighting position on one side of the stage makes a third... Make sure your floor is good and bouncy, but sturdy. We generally don't recommend deluge systems near the stage, because they usually damage the floor, and you add the new floor to any other fire damage that is caused...

Electrics: I would simply get a bunch of drop boxes with socapex connectors and short tails on them, and mount socapex boxes in the lighting grid. Don't let them make your grid out of Unistrut (it adds several hours of labor to every hang and focus session, not to mention scraped knuckles and such on all your electricians while trying to force the boingy-nuts into the track and threading the lighting fixture into them). 1.5" sched. 40 pipe. Always. It's what the clamps are designed for.

Make/have made: a lot of short cables (5' and 10')

Get a lot of boom bases (8 or 12) for creating side-light, and set them up so that you can extend the pole upwards (sleeve a 1.25" pipe inside the 1.5" pipe) and attach it to the grid with a cheseborough (hinge clamp)... Buy fixtures in batches of 6 or 8, and buy spare parts in larger quantities. Always have spare shutters on hand, and you should have enough spare lamps to replace 1/3 to 1/2 of your inventory at a time. Try setting your console up so that you run your lamps at 90 - 95% of capacity, rather than true 100%, and your lamps will last up to a year...

As far as codes go, make sure you have at least 1 foot-candle on the floor at all times (dark carpet will help keep this from distracting, or put some sort of glowing lines at the edges of steps (limit your liability, or CYA, as the \_expression goes around here). Other code things: make sure your crash bars are all going the right direction (run from the room, and you shouldn't ever pull a door towards you as you run from the fire towards the fresh air outside...) Try to get quiet crash bars, or make your vestibules part of the fire wall, and put regular free-swing, soft-close doors on the inside, then put the noisy crash bars on the lobby-side of the vestibule. Make sure you have enough places to plug in microphones (figure on 1 input per 9 square feet of acting area, at least in the patch bay, console should be at least 16 inputs, plus enough for CD, cassette, or MD, depending on what you use). You should also have several places to plug speakers in (Rane makes a 6 in, 6 out amp that works well for this) to locate sounds in precise locations. You should also set up your main speakers for good coverage of the audience without getting the business end anywhere near the stage. I recommend you hire an acoustics consultant for your room, and do what they suggest. Several of us on the list are constantly trying to compensate for bad acoustics that were supposed to be fixed by the application of treatments spec'd by the consultant which were cut from the budget...

Get a distribution amp for piping sound from the theatre into dressing rooms and restrooms... Small speakers, small amps, lots of wire... Get several spare general purpose mics for doing live voice effects. It's not a bad idea to assume that you'll have people who want to rent the theatre and present a lecture on occasion. Have a couple channels of wireless lapel mics, and have someone who knows sound really well do the installation and tuning of the room.

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The easiest way to avoid a time consuming redesign is to consider ALL the 'Public Occupancy' regulations of the UBC upfront, but in this order: ADA compliance first; Life Safety issues [aisle widths, seat spacing in all directions, fire suppression, and emergency exiting], second; and mechanical systems [HVAC, Electrical, and Plumbing, etc], third. Then consider floor and roof loading; flamespread of wall, ceiling, floor, and other surfaces; rated doors and hardware; and finally cosmetic items in the lobby/dressing room(s) and accessibility to loading/storage areas.

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Good suggestion, Richard, and I probably hadn't said that very clearly (but that's why I'd have an architect look at the plans). However, I'd either reverse the order of ADA compliance issues versus Life Safety issues or make them co-equal. Unfortunately, some of the ADA issues related to equal access are a bit "soft" and prone to interpretation (witness the suit against Mann Theatres because their "stadium seating" didn't allow wheelchair access to every seat...even though there was an entire row that aligned roughly with the lower-mid quarter of the

screens...a pretty darned good viewing location). Life safety issues are at least a bit better codified. And I haven't had a facility opening held up because of ADA issues - but I have when it failed any of the life safety reviews (including plan check). Unfortunately, it seems that a lot of the ADA issues only become evident when somebody files a lawsuit (even if it's frivolous).

I'm actually a big fan of the concept of ADA and am glad that there's \*something\* in place to require the issue to be addressed - but I don't think it was a particularly well-written piece of legislation. And it seems to be young enough that the whole "spirit of the law" is open to a lot of interpretation. sigh.

BTW: involving some of the local advocacy groups in the design process for the theatre can pay some interesting dividends - not just in making sure that the local interpretations of ADA are considered but in the sheer good-will that it generates. To quote a buddy of mine - "just 'cause I'm in a chair doesn't mean I don't buy tickets...and I'll even bring my own seat!"

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The reason why I consider ADA issues first among co-equals is that in certain historically designated buildings, you may not be able to have elevators or ramps that change the look of the building, and since certain uses are not allowed without elevators or compliant ramps, an adaptive reuse of the building for public occupancy purposes with hidden elevators may be cost prohibitive. All the drywall, panic hardware, annunciators, and fire suppression systems available are ineffective if you can't legally utilize the building due to ADA issues.

I have built 185 live theatres in 38 states since 1970 without government subsidy, and all of them were compliant with ADA since 1990. As I recall, it took acts by the California Senate and Legislature, then signed by the Governor, to allow the existing stairwells and elevators to be used by the Bradbury Building in downtown LA. The building did not undergo a structural change, and does not have a theatre, library, gallery or other public space in it.

I have found that whenever you ask for any variance from the UBC, ADA, NEC, or other code, it gives the AHJ a licence to demand some onerous conditions that raise the cost of, or lower the flexibility of, the venue being built. It is often less expensive in the long run to achieve full compliance than to be burdened by a conditional use. Likewise, it is often less expensive to walk away, lick your wounds, and abandon a project in the preplanning stages before a particular property has been acquired, than to buy the property to be improved and then acquiesce to a lot of unreasonable conditions by government or unions because you are stuck with the property and have a mortgage or construction loan to pay each month.

To quote Nancy Reagan, "Just Say No" if your Artistic Integrity, or the project's Financial Integrity, will be compromised. As an lawyer, I can say that 'good contracts make good friends'. I interpret this to also cover your relation with the AHJ. Put EVERYTHING on the plan, and lock in and get approved, up front, all details, even minor items such as signage and fire extinguisher height, so the Field inspector has NO discretion but to approve each stage of the work as it is completed and can NOT change the rules once the building process has started.