JOHN STORYK

Studio design tips from the designer of Jimi Hendrix' Electric Lady Studios
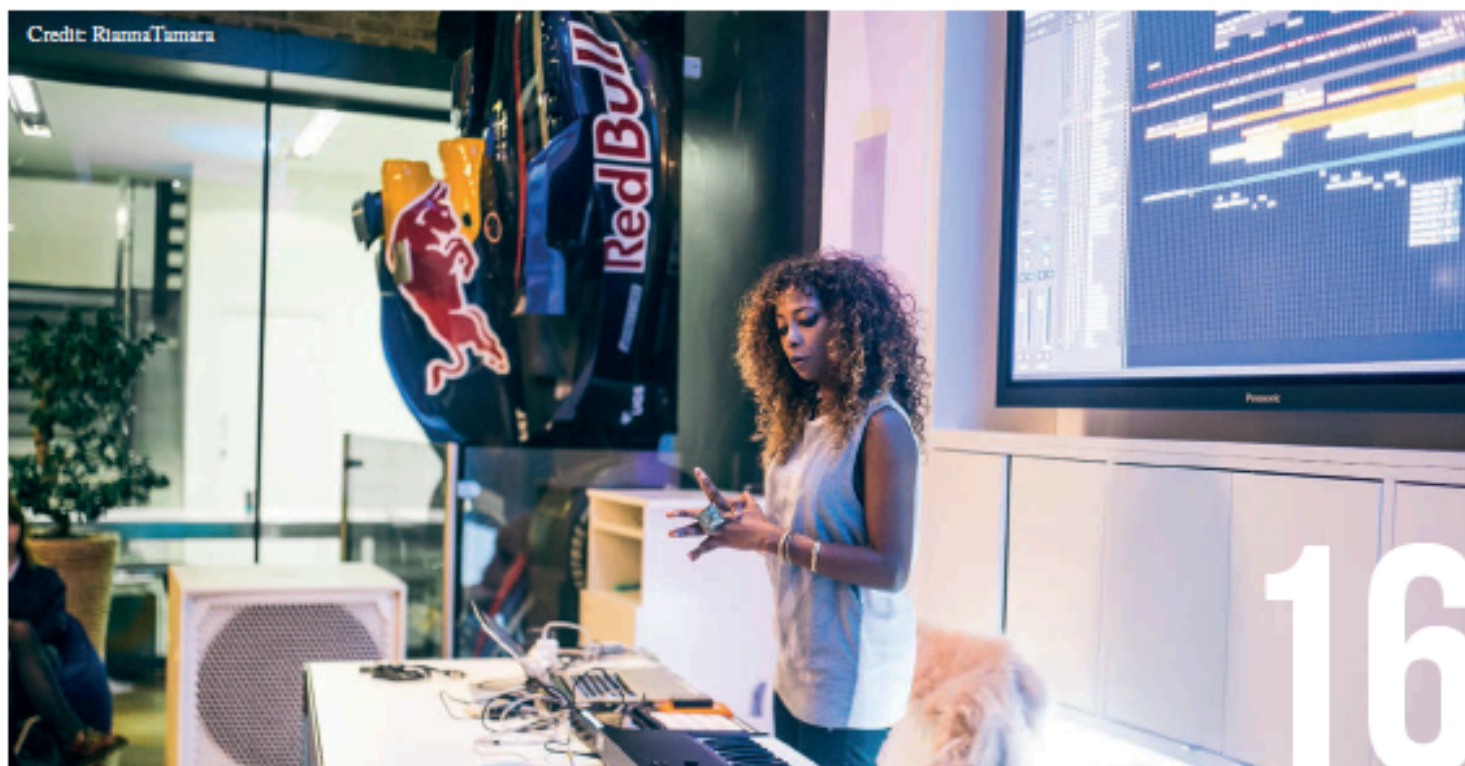
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STUDIO DESIGN 101 WITH JOHN STORYK

Legendary studio designer John Storyk, a founding partner of Walters-Storyk Design Group (WSDG), has been designing recording studios for nearly five decades, starting in 1970 with Jimi Hendrix' iconic Electric Lady Studios in Greenwich Village, New York City. WSDG has created nearly 4,000 recording, broadcast and audio/video production studios around the world since then, for the likes of Bruce Springsteen, Alicia Keys and Jay-Z, to NYC's Jazz At Lincoln Centre, Le Poisson Rouge and Switzerland's KKL Luzern Concert Hall. Here, Storyk shares his thoughts on how *not* to build a recording studio...

What steps need to be taken when designing and building a studio?

The most important step is to spend as much time as possible directly with the client on programming. Basically learning how to answer the key questions such as what they are really trying to accomplish. Most mistakes later on in the studio creation process can be traced back to not taking the time in this step.

Critical issues, though not necessarily in this order, are: How much sound isolation is required for bothersome external noises for recording, music being recorded in the studio that would impact on neighbours, etc. and, real-world noise occurring outside the studio that needs to be kept from impacting on the recording process.

It's very important to determine the exact sizes required for the room (or rooms) that you need. Bigger does not always mean better. I like the Buckminster Fuller axiom of trying to arrive at the bare maximum. And of course these decisions are generally dependent on budget. The amount of square footage you desire is directly related to your real financial situation.

Control room or mix position orientation and ergonomics: All studios need to deal with this critical layout issue. I find that laying out in exact detail how you want to listen and mix audio (either stereo or advanced immersive) is a primary issue in creating the rest of the studio design.

Which of these steps would be most detrimental if they were to be missed?

The client and the studio designer must determine the most accurate isolation requirements and size. When full isolation is required, this usually results in the single largest budget issue.

The next mistake we frequently encounter is simply not paying attention to low frequency behavior, particularly in small listening environments (which of course is the vast majority of today's studio control rooms). The smaller the room the more difficult it is to install large traditional bass absorbers. That's the bad news. The good news is that the world of prefab thin (less than six inches) pressure absorbers, such as membranes, resonators, etc. has expanded significantly in recent years. There are a lot of cool solutions on the market. The trick is in knowing where to use them.

How important is the choice of building for a studio?

There is an old saying in studio design: "Quiet studio, quiet site." Noise and sound isolation are often the single largest construction cost for studios.

Try to avoid wood structures whenever possible. Studio locations that are "slab on grade" are usually a bit easier to deal with, particularly with low frequency sound isolation issues.

You cannot really have too much height when analysing a potential site. Built up floors, isolated ceilings, additional ceiling treatments, HVAC ductwork etc. All of these elements eat up the available height. In some basement studios we have been able to create additional ceiling height by excavating the floor. For a recent project in an old brownstone building in Brooklyn, NY, we dug down six feet and actually found an old Revolutionary War cannonball!

Non-acoustic issues. I for one am not a big fan of studios that do not have daylight. Hours and hours of working without daylight – yeeks. In certain countries in Europe, this is actually illegal. Anne Minciell's iconic Jungle City Studios are a prime example of incorporating daylight and accessing amazing New York City views in the live and control rooms. Same with Paul Epworth's Church Studios in London and Grammy award-winning engineer, Cynthia Daniels' Monk Music Studios in East Hampton, Long Island, NY.

What are the most common problems you've encountered in music studios?

With respect to internal room acoustics (IA), the most common problem is lack of successful Low Frequency Response. LFA is often a step that is simply not taken in studio design. As studio environments have gotten smaller and smaller, which is good news concerning overall construction budgets, LFA becomes all the more important. It's a simple matter of math as first order Eigen Tones (standing wave frequency) become higher and higher.

Geometry– I have always loved this subject. I am always amazed at how often the simplest geometric mistakes are made in early studio layout and planning. This does not mean that parallel walls are bad. (Actually this is a common misunderstanding– there is really nothing wrong with parallel boundaries if they are treated correctly). Room ratios count (no squares or cubes please!) and there are always best and worst locations for speaker and listener positions in mix environments.


John Storyk on Paul Epworth's Church Studios, Writing Room in London:
"I love the use of daylight as well as the ability to have virtually an unlimited amount of colour in the rooms. Almost 50 years ago, Jimi Hendrix asked for the same thing – we have been chasing this idea ever since. Notice how small the writing room is. This is made possible by targeted low frequency control on the walls and ceilings (very specific perforated thin panels)."

John Storyk on Ovasen Media, New York City:

"The two mastering film mixing control rooms are possibly the smallest and even the least organized geometry we have used in many studio examples. Why? This was the only way we could squeeze all of the rooms and support spaces in a very tiny 1,200 square foot loft in mid-town Manhattan. We make these mix rooms work by using electronic corner LF absorbers (mfg. by Bag End) - clearly a last resort, but part of the designer's job is to know what tools are available if and when we need them."
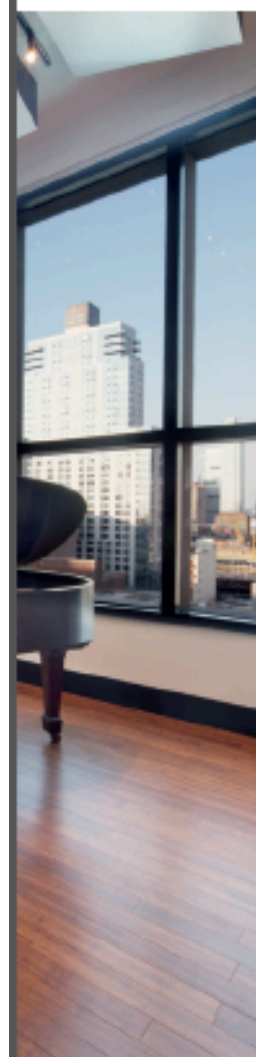
John Storyk on Jungle City Studios, New York City:

"It took founder and creator, Anne Mincieli over a year to find the perfect location - high above surrounding buildings; high ceilings; concrete construction; and (most importantly) lots of glass. When recording and mixing artists and engineers can enjoy (and be inspired by) panoramic views of Manhattan and by turning around in the control room see the World Trade Centre through a clear / transparent rear wall diffusor system."

John Storyk on Monk Music, East Hampton, New York:

"Geometry and room proportion are the keys here as well as obvious symmetry. Glass is certainly not the enemy and in fact is used to optimise reflection control to rear room diffusor elements. Originally, owner Cynthia Daniels only wanted one iso booth. We championed the idea of two (for obvious symmetry) and Cynthia has smiled every day since the studio opened with those expanded capabilities."