

REDBRICK
RECORDING

So You Want To Make A CD!

Here You Will Find All You Will Need

Read On!

So You Want To Make A CD!

This paper is designed to help make the most effective use of your time and money in the recording studio. By following simple guidelines, you can get the best recording, at the least expense.

It is said "Those who fail to plan, plan to fail!"

Define your goal

It's important to define the reason for recording. Is it to have a demo to get gigs, attract artist management or shop a song? Or is it to have a finished release to sell after gigs and on the web with hopes of attracting a label? Recording requirements will differ vastly.

Everyone wants the best recording possible, but like most things, you get what you pay for. If all you need is a demo, maybe you don't need an "A" rated studio that charges top level prices. In fact, maybe a home recording rig is all that's needed for tracking. Go to a friend's hobby-project studio (referred to as FHPS throughout this document. More on that later.) Rather, if you're looking for a radio ready release, the "A" rated studio may be necessary, with price being a secondary issue. Would you pick a surgeon by their price?

If shopping a demo, no one is expecting commercial quality. Not the club owner, agent, or fellow artists. They are only interested in content and energy. If it's a finished CD, you'll be held to the same standard as a nationally released commercial CD. Fans, DJs, or labels don't care how you got it done, just that it sounds right! If your FHPS could get it there, why would labels pay the "A" rated studios their "A" rates? They are in business to make money, not spend it.

Know your limitations

Self analysis is key. Record your practice sessions and listen carefully. A cheap portable cassette deck with a built-in microphone will do fine. We're looking for performance and content, not sound quality. Often what feels good in practice doesn't hold up when listened to rather than played. Be open to change. Consider a key change or a new arrangement. Perhaps the horn player should sit this song out or play tambourine on this song instead. This is also the time to accept that some material might not be of the same caliber as the rest, especially if none of the above fixed it. Choose different songs, write, gather more, or just leave questionable out.

Listen to the individual performances. If the soloist *almost* gets it right every time, you're not ready to spend your hard earned \$\$ in the studio. The performance must be repeatedly perfect in practice. Being in the studio won't make you better musicians! If more practice won't solve it, simplify the part, or get a better soloist!

If the song tempo drifts, at all, play to a click. Play to a click anyway. In the end you'll thank me. This will be hard if you're not used to it. Life is hard. Nothing sounds

more amateurish than a song that speeds up or slows down. With practice, you'll get quite good at following a click and your internal clock will improve too! Metronomes can be had with various capabilities for \$20.+, electronic and otherwise. The studio will provide a click in the right headphone (s) when recording. Many of the best studio musicians insist on a click. These are people with impeccable timing. They also have impeccable standards and find any drift, no matter how imperceptible, unacceptable.

Now is a good time to say, "document everything": all of the song names, with the key, tempo, length, instrumentation, lyrics, and even charts, if possible. These things will save you time and money later in the studio. This will be discussed at greater length later in the paper.

It's said that a man that represents himself in a court of law has a fool for a client. The same can be said of the self produced artist in the studio. Hire a producer. Whether it is a knowledgeable friend familiar with your music and vision, a professional producer, or the engineer at the studio who is willing to come to practices, hire a producer! The studio engineer is hearing it for the first time and has no idea what your capabilities are or how the song is supposed to go. (Unless they have attended practices and discussed your project with you.) You'll want them to know your songs well, to have heard you perform them at their best, and to have an intimate understanding of your vision. You want someone who can tell you, "That sucked!" Or "That it was the best you've ever done".

This will also save you time (read: "money") in the studio as the producer can say "we've got it, let's go on to the next one." Without the band having to break and listen through for errors and such. On longer projects, this alone may well cover the expense and relieves the artist of nerve-racking judgment calls that erode artistic flow!

Criteria for choosing a producer are:

- 1) knowledgeable in the genre, both technically and subjectively.*
- 2) Someone with whom you communicate easily and effectively.*
- 3) Demonstrates a genuine interest in your vision, otherwise they'll produce theirs.*
- 4) Is willing to spend the time in pre-production. By that, I mean listening to practices, taking notes, making suggestions, and yes, having arguments er discussions. Disagreements are healthy and should not be cause for discontent. They are signs that people are doing their job, hopefully with the right mix of passion, love, logic and self control.*

Make sure your expectations of the producer are detailed and made clear. What's just as important: make sure you know their expectations of you. All compensation should also be in writing once a good fit is determined. On that note, don't be afraid to say no. It's tempting to settle for the available, because finding someone else is going to be hard work. Life is hard. Success is damn near impossible! Music is a business that requires work in pleasant and unpleasant tasks alike. Run an ad in [craigs-list](#), or recruit the leader of a band in your genre that you respect. Look at commercially successful CDs in your genre that reflect your taste in sound, arrangement, and integrity. Who produced them? Look until you're convinced that you've found your musical soul-mate, but with even better taste!

While we're on the subject of limitations, let's discuss your strengths. Your artistry, your songs, arrangements, musicianship, and stage presence constitute your war chest. Now let's look at other possible strengths. Microphone placement in a studio, determination of best edit points for a punch, which of the studio's arsenal of FX and processors will best bring out the magic of the song, and why that pedal effect worked fine at the last gig, but not now, to name a few. I have on repeated occasions had performers explain that their instrument sounds best with this reverb and insist it be tracked wet. This of course might be very complimentary to their instrument, but has nothing to do with the song. Make no mistake, it's about the song. Generally it's a very good idea for you to focus on artistry, your songs, arrangements, musicianship, and stage presence, and let the studio / engineer / producer do his job.

If you recorded at FHPS, go ahead and mix it. Manage your expectations carefully at this point. If it's a demo of content and energy only, this may be fine. If, on the other hand, you find after repeated attempts, mixing sucks the life out of it, or only makes it worse, this too is a limitation. You can't expect to have the tools or knowledgebase of a pro that does this 52 weeks a year. If you require better, take it to a "pro". Ways to determine who the right "pro" is are spelled out in the next chapter.

So many studios! How do I know which one is right for me?

Much as in choosing any partner, the right studio is critical and must be selected carefully. Sources for studios available range from the phone book (paper and online), search engines such as "Google", local classifieds, (in Chicago, the [Reader](#)), or a referral from another musician that has a good CD. Referrals are an excellent way to find a studio, and how I obtain most of my work. You know this studio satisfied someone. But that's really all you know. Your needs most probably differ from theirs.

Things you need to know are as follows:

- 1) Are they interested in your success? If not, they'll likely take the easy way rather than the right way. Probably only on little things, but those little things really add up. An easy way to determine this is how responsive they are to your questions, and how many questions they have for you. Your goals and vision for the project are certainly key for them to aid in its creation. If all they need is your security deposit and how many hours, that speaks volumes.
- 2) Can they get the sonic results you're looking for? A one-room studio might be fine for a classical trio, but might not suffice for a metal band that's going to need isolation. Ask to hear samples or client work done in your genre. If there is a particular "dirty" blues guitar sound you're aiming for, ask to hear some semblance of the same. You may very well wish to track in one studio because of those capabilities, and mix in another for their attributes, and master in yet another. There are merits to this. Be certain the project can be transported in a universal format or your options will be very limited. There are also good reasons for having one studio see your project all the way

through. It's a choice. This is discussed in more detail in the mastering section of this paper.

- 3) Make a check list of your requirements. Instruments or amplifiers, a tuned piano, an engineer, a producer, daily one-offs, and hard-drive back ups are but some examples. Many studios charge for these services, others offer them as complimentary. Be sure to find out how they are treated in this studio.
- 4) Make certain your comfortable in the space. If you don't feel creative there, you won't be creative there. Personalities figure prominently on this issue.
- 5) Discuss your schedule and be sure the studio is available. Also determine hours of operation. I'll mention deadlines here. Generally they can be guidelines or targets, but if strictly adhered to, they can be very counter-productive. If a mix isn't right, a date on the calendar won't make it so. It's art, not a cake!
- 6) Discuss pricing. Ask about block rates. Discounts are common for larger projects or for bundled services. Some studios offer CD duplication and graphic arts or even video services for example.

Beware of the many pitfalls that can occur. Their impact can span the minor irritation, to complete disaster.

Be certain everyone is on the same team. A paid producer forced into a studio not of their choosing is fully capable of proving his point, at your expense! A band member who feels overlooked in the decision process can be problematic or even destructive.

Friends, family, financiers, agents and anyone else not directly involved in the recording-mix-mastering process should not be at the studio. At minimum, they are a distraction, and potentially a genuine hindrance.

Drugs and alcohol have no place at the studio. This is for the studio's protection, not yours. If these are the means by which you achieve your enlightened state, then by all means do it, elsewhere. Do it before, do it after, leave mid-session and do it again, but don't bring it into the studio. Should law enforcement descend, and drugs are found, they can and will confiscate the studio. The studio also faces liability for all the brilliant things you do under the influence, there or elsewhere, if it was consumed in the studio with the studio's consent. Call me a prude, but I intend to keep my business and will protect it!

Your studio time is booked, now go back to work!

Remember all the copious notes you've been taking. Use them to plan your session. Plan the order of songs to be recorded. It's best to do the songs with the most musicians first, ending with the songs that have the fewest. This allows members that may well be required for overdubs later to leave the studio and remain fresh. An order based on the "hardest" first or "easiest" first simply isn't efficient. You've practiced them

all till they're perfect anyway, right? A copy of this list and all song information, (key, lyrics, etc.) should be given to the studio engineer in advance of the session. This will speed set up and foster strategies that will greatly benefit your music and budget. Notes about planned overdubs (harmonies etc.) should also be included.

If you are a group, decide in advance how decisions will be made. Everything from when to take a break, whose paying for pizza and where to order it from can cause friction and delay. Optimally one person is the designated decision maker. One more thing a producer is good for!

Let people know you'll be in the studio on "X" dates. In other words, don't call, you won't have your phone turned on. Also, they'll know where you are in case of a real emergency.

Plan on wearing comfortable clothes in the studio, and bring a bag with extra garments. If it gets chilly or warm, you'll be glad you did. Avoid clothes that make any noise when you move. Do the same for jewelry, buckles, and squeaky shoes.

Snacks, bottled water, refreshments, meds, as well as favorite toys, (crossword puzzles, books, magazines) letters that need writing, are all productive things to have on breaks. There will be breaks as the engineer breaks down, sets up, reconfigures, etc. Coffee is something that may be on hand, if not, bring it if you want it.

Singers should not drink anything with color, citrus, or caffeine. Water, green tea, or "Throat Coat" is the only exception to this. "Throat Coat" can be found at any "GNC" or similar nutrition store. You'll sing better and longer before sounding fatigued. Many professional session singers highly recommend "Throat Coat" for flexibility and control.

Double confirm any necessary equipment rentals. Also re-confirm any guest artists. Remember, they are "hired guns" and may not be as focused as you are.

Practice as much as possible prior to your session dates. Get as much sleep as possible too. It helps a lot, maybe more than anything else!

Go make a record!

As the session progresses, great things, and some not so great things, will happen. Treat them as you would in a live performance. Take them in stride. Neither excessive jubilation, nor an angry or depressed manor will serve your purpose well. A positive attitude will help a lot. Problems have solutions and a clear head will find them.

Frequent breaks will occur and it is important you expect them. The engineer will have to make adjustments, both major and minor, between songs. "Take five" is often the best solution to someone missing their intro over and over, and sometimes a minute or three of reassurance from a mate can make all the difference for a musician that's imploding over a riff. If you expect these breaks, you won't see them as delays, but necessities for the creative process, and they are.

The producer should be taking good notes on which take is the best, any spots that might require a punch in by which instrument(s), and be providing constant feedback on performance and progress. Hopefully this is done in a positive way. (*Condescending and derisive mannerisms are unproductive and distasteful, and will make for a very long day!*)

Once all the rhythm tracks are recorded, it's time to do overdubs. This might be a singer(s) adding a harmony(s), or a rhythm guitar adding extra meat. These things may

have been determined on the fly and that's ok. If your muse shows up, it's a good thing. Your muse is who got you here to begin with! This is another reason why a hard and fast deadline can be counter-productive.

When everything that needs to be recorded is, it's time to step away. (*Slowly back away from the studio. Make no sudden movements or worse, sudden decisions!*) The engineer should provide you with ruff mixes to evaluate. The term "mixes" is really a misnomer at this point. It's really just a combination of raw tracks with minimal level management pushed together for content evaluation.

The problem is you cannot effectively evaluate what you've been immersed in till you separate from it. Time and distance are your tools. Stated differently, put the disc in a drawer for two days, and then listen to it. Again take copious notes. With luck, you and your producer did a good job and there just isn't much to write about. You might find however that one thing in one song that eluded everyone during the session. Decide on a solution. Go back in and punch a part, re-track, or leave it off the CD. Make sure you don't spend valuable time mixing something that won't ever be ready for prime time!

Mix it up!

If inspiration that yields art is germination, and the recording engineer is the grower and harvester of crops, then the mix engineer is truly the cook in the kitchen! This is when the flavors are blended in the right manor and amount, and where spices and cooking methods are used to make the whole, greater than the sum of its parts.

This is a process that can be as exciting as watching paint dry. Because it deals with a minutia of detail, it takes a while. All of this detail is absolutely necessary to the final product, and almost all of it is entirely subjective. A myriad of small decisions will have to be made. "Is the snare loud enough?", "is the guitar stepping on the vocals?", "do we need more cow bell?" Imagine trying to make all those decisions by committee! Don't! Elect one member of the band as the "mix producer". They, along with the producer, combined with the mix engineer, will provide a balanced judge-panel that will make assessments, 98% of them correct. Don't worry, everyone will get their say. As mixes are completed, a "one off" will be provided for everyone to evaluate. The important thing is most of the "heavy lifting" has been done and other changes are likely to be subtle.

Mixing is an art, and much like art, it can be boundless, if you let it. A mix is done when it's done, but it can never be perfect. The secret is to know when is which. A professional studio today has at its grasp countless tools and techniques to refine the sound of a mix. The problem with "total control" is that you might use it! Some studios promise a "finished" mix in a half hour. If it's only two or three tracks per song, it's possible. If it's thirty-two tracks per song, I don't think so! Commercial studios working on a song destined for national release may well spend half to a full day on a mix, and still call it a first draft. This may be overkill, and I won't argue here, but it really depends on your expectations. Presuming a competent engineer, two hours may well yield the

sound you find acceptable, but if not, it's not done. This is definitely a "you get what you pay for" scenario.

Mixing is a two step process for everything but spoken word recordings. After the first mix is completed, one-offs are given to evaluate. These should not be listened to for at least a day or two. Then with pen and paper in hand, they should be listened to by all interested parties on all imaginable systems. Detailed notes should be taken while listening on the best system available, the worst system available, the car, the boom box, the walkman, with head phones, generally try to cover all possible listening situations. Why? Because your audience will listen in all those situations.

Have a group meeting to combine the notes. This is the time to weed out the "more me" complaints that may serve individuals, but not the song. Remember, it's all about the song! The rest of the ideas make the list. The engineer will have done the same thing, but come up with entirely different solutions. You wrote "the vocal is too loud in spots". He wrote the guitar track is fighting the vocal, which is actually too loud after fixing the guitar. You're dealing with the same problem, but you are addressing the symptom, he the disease. The key is to work together. This list, though possibly lengthy, consists of relatively small, quick tasks. When done, you'll once again get one-offs and should be evaluated the same as before. There may be a thing or two, but largely, all should agree, they are finished mixes. What ever tweaks will of course be done.

Mastering

"Why is it customers always like his dessert better than mine?" asked the culinary student. "Presentation! It's all in the presentation!" answered the chef.

Mastering is the art, (some say black art) of making all the mixes on a CD sound not dissimilar. That is, so nothing sticks out in a bad way. It also adds a final sheen to a mix (read "*that certain sump'n sump'n!*") and fixes or enhances certain sonic properties that really make it, well, "right!" It is also the stage that adjusts perceived volume levels so the tracks are consistent, and at commercial/ broadcast levels.

This is not an option; this is an absolute necessity for everything destined for a consumer. Without mastering the end product will sound amateurish.

At this point you'll also "assemble" the CD. That is to say, finalize song order and the length of time between songs. It makes a big difference in the mood set for each song, feel of the CD, and impression it creates throughout the listening experience.

There are many mastering studios that specialize in mastering only. These range from smaller boutiques to large commercial facilities to CD duplication houses that offer mastering services for a small fee or even inclusive in the price. Likewise, many studios that track and mix, also offer mastering. Pricing can range from free, (not really, the price is built in somewhere) to \$20 per song, even up to \$500 per hour! For reference, a song generally takes a half hour to master, some more, some less. Are you seeing a trend here? Pricing is all over the place. It's generally safe to say the \$500 per hour house will do a better job than the free house, but buyer beware! Ask to hear before and after demos. Price is also a very regional issue where competition and demand have a huge effect. A

mastering house in Dubuque may not be able to demand the same rates as one in Nashville. The world is shrinking though, and geography is fast becoming a non-issue.

Another issue is an oft stated rule; “never master where you mix.” The logic being “how can the engineer that created the problems in the mix, fix problems in the master?” But what if the mix has no problems and all that is required is level management? There was a time when the old rule was necessary because the mastering engineer possessed tools and possibly ears the mix engineer didn’t. Technology has changed that to a great degree and many well equipped studios have the technical capabilities. The real issue is, “does the mix engineer have the ears and skill?” If not, then by all means, take it to a mastering house. If yes, they are more intimate with your music and can master with even greater speed and focus. It’s a choice, but one that needs not to be made until the mixes are finished. By then the decision should be obvious.

Duplication VS. Replication. What’s the difference? Does it matter?

In a word? Maybe. If you’re releasing a demo, then duplication is probably the way to go as it’s generally a little cheaper. Duplication is a CD-R, the same kind your home computer creates, but probably with graphics printed on it. These can look every bit as good as replicated CDs with all the bells and whistles your willing to pay for. (Jewel case, shrink wrap, bar code, multi-page color insert, etc.) The down-side is that the failure rates are much higher. In fact, they can be quite high if the blank media is poor, if certain standards weren’t adhered to during assembly, or the person doing the duplication isn’t very careful. Some CD players, especially older ones, can be finicky about CD-R s and may even refuse to play them.

Replicated CDs are manufactured in an injection-molding process. The disc is stamped with tiny pits representing data for the CD player to read in the extruded poly. With duplication, this is simulated by a laser that burns holes in a layer of dye. Replication has a much lower rate of failure, but also takes a little longer. Duplication can yield several hundred CDs in three to five days. Replication generally requires three to five weeks. For 500 or more, the price points tend to level out and replication is the way to go for larger runs.

For graphics beyond simple black and white text, it is best to hire a professional. Duplication houses are necessarily finicky about graphics formats. A pro knows how best to avoid your graphics being off color or misprinted. You should get a “proof” to approve before the duplication/replication house does the work.

We finished the CD! Were done! Woo Hooo! (No you’re not!)

“I don’t see paparazzi, limousines, mobs of love struck screaming fans, drugs, rampant sex, or movie deals! What’s up with that?”

Typical response after CD release

“My then 2 1/2 year old son came running to show me what he had done. Sure enough, he had left two cigar like sculptures in the toilet for the first time. He was quite

pleased with himself as was I! I was then struck by an overwhelming realization of how much work still lay ahead for both he and I!!!”

Me.

You struggled to get the CD finished, and you did a fine job. But now the real work begins! Managing your CD and career is a full time job to say the least. The specific requirements to obtain even the possibility of success are beyond the scope of this paper. I can't recommend highly enough reading "What They'll Never Tell You About The Music Business (The Myths, the Secrets, the Lies {and a Few Truths})", by Peter M. Thall, Billboard Books / New York. He begins by encouraging you not to get into the music business at all. He then offers up many very compelling arguments that will give you pause! If that doesn't scare you off, you're nuts. But then again, you have to be crazy to be a musician. Join the club! I did.

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