

Six Things to Look for When Mastering a Recording





Andy Rogulich, owner and mastering engineer, has accrued more than 35 years of experience in mixing for house, television, live radio broadcasting, and recording. But Andy brings more than experience to High Fidelity Mastering.

With academic degrees in electrical engineering, engineering mechanics, and management of technical operations, Andy is exceptionally adept at understanding, operating, and controlling the most sophisticated electronic equipment.

Andy is also a graduate of the Masterpiece School of Mastering, South Padre Island, TX, taught by Billy Stull of Masterpiece Mastering and Legendary Audio. This unique training further qualifies him to render the very best service to discerning professionals who want superior results.

Who uses professional mastering?

All professional musicians use a mastering facility. If you look on any CD made within the last ten years, you'll find in the list of credits two very distinct recognitions: "Recorded by..." and "Mastered by..." Yes, all professional musicians use a mastering facility.

Having **High Fidelity Mastering** be your facility will provide your recording an unbiased listening evaluation of what needs to be improved for it to be ready for mass production.

Times change and technology improves. You may also have an old recording you made on vinyl, reel-to-reel, or cassette that you would like to resurrect for your next album so it sounds like the songs you recorded today. **High Fidelity Mastering** has the capability to take your original recording, in whatever format it is in, and enhance and restore new life into the recording, and finally transfer it to a digital file for you.

It takes more than equipment to do a good job of mastering. It takes years of experience in all forms of audio reproduction and the proper educational training in mastering. Only then can you know what to listen for and how to improve it. You labored long on your song, make it sound its very best by having your next album say, "Mastered by Andy Rogulich at **High Fidelity Mastering**."

1. Start with a great recording

You spent a lot of time and money having your music recorded in a recording studio. You worked with the recording engineer, and maybe even a producer to mix all the elements of a recording from multi-tracks down to a stereo mix. You had a graphic artist make beautiful artwork for your CD jacket and you found a CD production facility ready to mass produce your album. You are all ready to go and you decide to listen to your songs one more time. Yet when you compare the sound quality to your favorite artist's CD, you realize your music sounds nowhere near as good as the sound coming off your favorite CD. Why is that?

2. Have your music mastered by someone who was not part of the recording process.

The reason is the other artist decided to have his music mastered by someone not part of the original process of recording. By having your music mastered by a separate mastering facility rather than where you recorded it, gives your music a chance to be improved by someone listening to your songs from a fresh perspective, and for the first time, not over and over again like you did while working with your recording engineer. That's why your favorite artist's CD's sound so good—it was mastered by a professional.

3. Learn what's behind high-quality mastering.

Mastering is the process by which the mastering engineer prepares and transfers recorded audio from the original source material onto a master CD. This master is the source from which all copies are produced. It's crucial to get the best master so the production facility can make the best product for your effort. The better the master, the better your product. This allows mass production of your recording at the best possible level of quality. You want to have a mastering facility for your recording capable of providing you the highest quality reproduction of sound that improves the original recording.

By using a collection of specialized mastering equipment, the mastering engineer can create the sensation of being in the presence of the actual performance. This is accomplished by a variety of means, such as eliminating noise, adding depth, widening the soundstage, and increasing dynamic range of the recording. You also want to have your recording improved through various means such as equalization, compression, and expansion. Additional tasks, such as editing, pre-gapping, leveling, fading in and out, noise reduction, and other signal restoration and enhancement processes, are applied as necessary during the mastering stage. Program material is then put in whatever order you request.

In the end, you receive a master that's ready for a replication facility to produce as many copies you request.

4. Know what to listen for.

A mastering engineer listens to essentially everything in the recording to improve your original recording, such as:

- Proper tonal balance, depth and width of the soundstage to make it sound like a real performance.
- Noise, distortion, sibilance in the vocal, and out-of-phase sound caused by a less than optimal microphone placement during the original recording.
- Proper imaging of the vocal and placement of instruments to have the right balance.
- All songs at the same volume level from one song to the next.

High Fidelity Mastering takes out the bad, accentuates the good, and allows your talent to shine through!

You also may find that after you have listened to what you recorded in the studio that you want to make some changes. Perhaps you find you'd prefer the vocals to be more forward of the instruments. Or you may hear a buzz or hum you hadn't noticed before. Or you'd like to have a wider soundstage or a greater depth to the music. Or you may like more reverberation, or perhaps more punch to the kick drum. You could return to the recording studio, but studio time may not be available and it typically is more expensive than mastering time — and they may not have the equipment and skills needed to make the necessary changes, such as removing clicks, pops, buzz, hum, tape hiss, unwanted transients, and distortion. You also may decide you want to convert your two-channel stereo recording you made in the studio to a 5.1 surround sound recording on a DVD master. A state-of-the-art mastering facility like **High Fidelity Mastering** can do this for you.

5. Preparing your songs for mastering.

There are some very simple steps to prep your songs for the mastering process:

1. Record in at least 16 bit 44.1kHz sampling rate in a .wav or .aiff file. Higher bit and sampling rates like 24 bit 96kHz provide an even better translation of the original analog wave form of the voice or instrument and will allow us to master in this hi-resolution format, and provide you with these files for additional marketing of your music. Do not record in or send mp3-type files for mastering. They are compressed audio formats and will not provide you with high quality masters.
2. Provide the mixed down stereo tracks with no overall bus compression, limiting, or equalization. This is what the mastering engineer will do for you.
3. Don't finalize your mix to a 0db level. Give your recording a chance to have some space for dynamics added in the mastering process. Record your stereo mix down 2-3db below 0db will give us the headroom needed for mastering
4. Buy your International Standard Recording Codes (ISRC) at (<http://www.usisrc.org>). They are inexpensive and you control the codes. They give you plenty of codes for future projects.
5. Email the list and order of songs along with the ISRC codes for each song, and we will encode the ISRC on each song. This provides the means to automatically identify recordings for royalty payments.
6. Send us your mixed down songs via a Web server like Drop Box, or You Send It.com. They are a safe way to send your music and the digital files are downloaded very quickly.

6. What to do after you receive your mastered songs

1. Listen to your mastered songs on as many different systems you have. Have your friends listen to the mastered recording. Once you are happy with each mastered song, we will provide you with two mastered CDs, one for you to play, the other to send to the mass production facility of your choice.
2. Make sure your production facility can replicate your master CD. Replication transfers all data including the artwork of the album and ISRC number for each song, duplication does not. Make sure your production facility replicates, not duplicates, your master CD!

If you have any other questions that have not been covered in this white paper, please email us at andy@highfidelitymastering.com, or call us at 505-459-6242.