

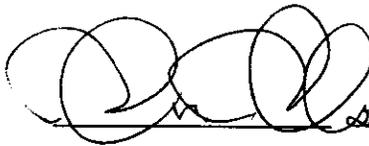
Adventures in Audio Recording

Honors Thesis (TCOM 437)

by

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Thesis Advisor
Stan Sollars

A handwritten signature in black ink, consisting of several overlapping loops and a horizontal line at the bottom, positioned below the text 'Thesis Advisor Stan Sollars'.

Ball State University
Muncie, Indiana

May 2004

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2489
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.GGG

Acknowledgements

-I would like to thank Stan Sollars for his time and direction in this project. His advice, guidance, and experience were invaluable in this recording.

-Of course, this album would not have been what it is without the musical masterpieces of Jon Hainstock. Jon will certainly be moving up in the music industry.

Abstract

In recent years, popular American music culture has seen a proliferation of small acoustic groups and the return of the “singer/songwriter.” Examples include John Mayer, Jack Johnson, Norah Jones, and Nickel Creek. As the capstone of my studies in the Telecommunications Department here at Ball State, I have produced a six song CD with a local artist, freshman Jon Hainstock. This recording has required a knowledge of recording techniques, musical aptitude, and ability in the Pro Tools editing and music mixing platform. The final project contained within is a stereo and 5.1 surround sound album with schematics and documentation of the process I have taken in the creation of this project.

Recording Process

The recording process requires time and preparation in order to be successful. Microphones must be selected, software prepared, and the studio must be set up before the session begins. The recording process began by selecting microphones to capture the instruments and vocals. I chose to use two excellent microphones, a pair of Sennheiser MD 421 for the guitars and the Neumann U87 for vocals. These mics were wonderful in their performance and sound reproduction.

After a software problem that delayed the beginning of the session, Jon and I began to record. For the next 8 hours, we recorded, analyzed, and modified songs to achieve the best sound possible on that day. Unfortunately, Jon was feeling under the weather and we later chose to re-record several of the vocal sections. From a technical standpoint, the session went very smoothly. The equipment functioned well and sounded clear.

As we progressed, we recorded first the guitar and next the vocal track. Overlying guitar tracks were then put into place as well as bass and drum sections. I chose to mic the guitars by placing one mic near the sound hole with a second mic near the frets. I chose this method over the XY pattern (in which the microphones are crossed over one another) because I wanted to spread the guitar over the stereo spectrum from left to right. This turned out to be an adequate method, but I would have liked to experiment with different patterns as well.

Mixing Process

In the mixing process, the previously recorded tracks were editing in the Pro Tools HD editing platform. Each tracks was analyzed and altered to achieve the desired sound. For most, this meant setting appropriate volume levels and eliminating mistakes. Other tracks were changed via various plug-ins that added reverb, compression, or changed the EQ of a track. Once a song had been mixed for the first time, it was taken out of the studio and analyzed in a variety of listening situations and on different speakers including home stereo, car stereo, headphones, and computer speakers. This process was important in determining the final mix for each song.

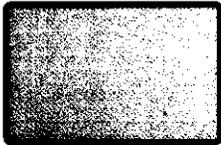
I chose to edit the mix in stereo first and subsequently “bumped” the mix up into 5.1 surround sound. This allowed me to take the alterations I had made in the original tracks and transport them to 5.1 surround sound, leaving me with only changes to the panning configurations. The following pages show the placement of the tracks in surround sound. Unfortunately, the surround sound versions of this album cannot be transported outside of the Telecommunications building, as the appropriate software is not in place to export these songs.

Overall, I was pleased with the outcome of both the recording and mixing process. In any work, the craftsman sees flaws to correct, but I am proud of the finished product.

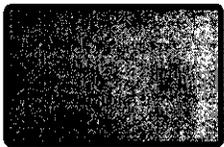
5.1 Diagrams Key



Acoustic 1.0



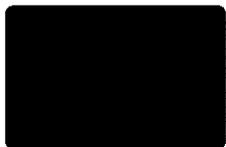
Acoustic 1.5



Acoustic 2.0



Acoustic 2.5



Lead Vocal



Bass



Drum 1



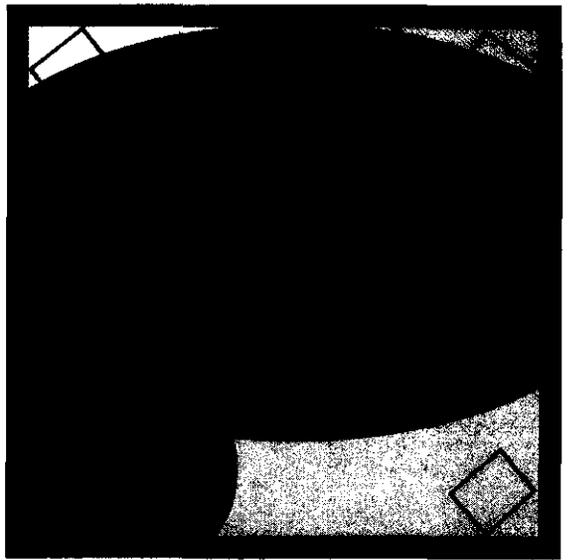
Drum 2



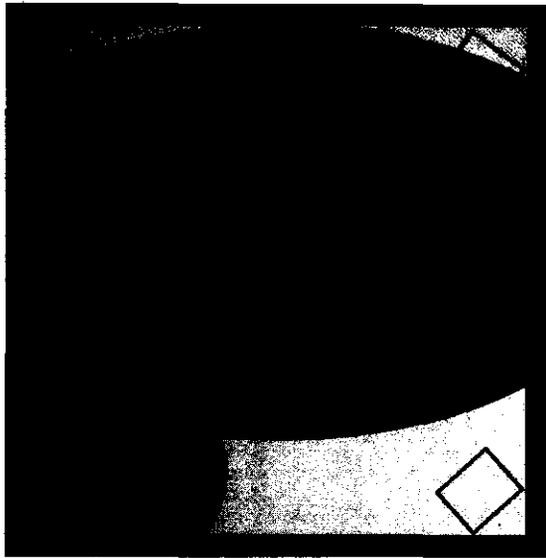
Harmony Vocal



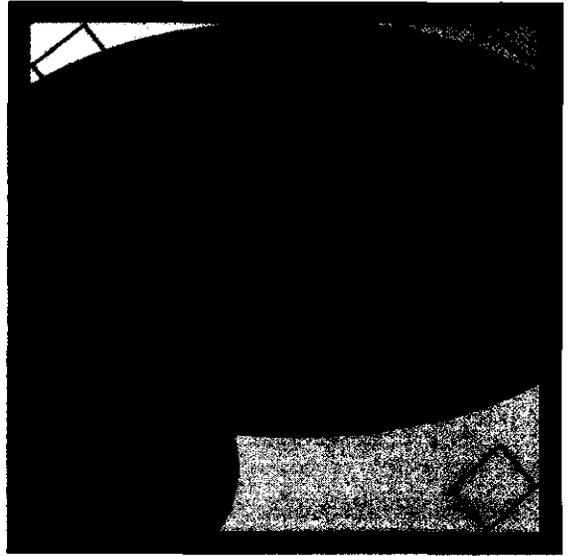
Desert Oasis



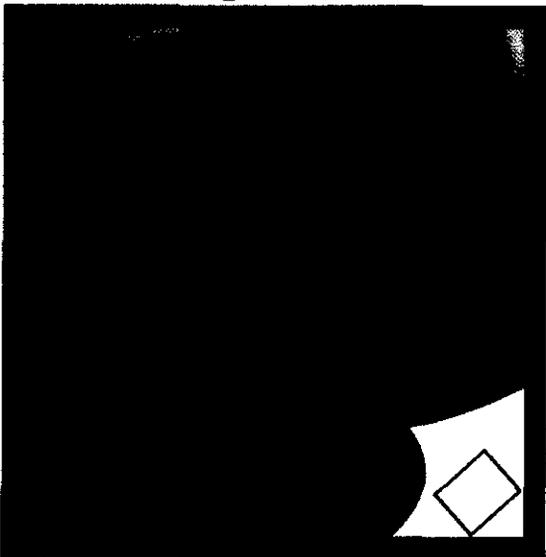
I Want



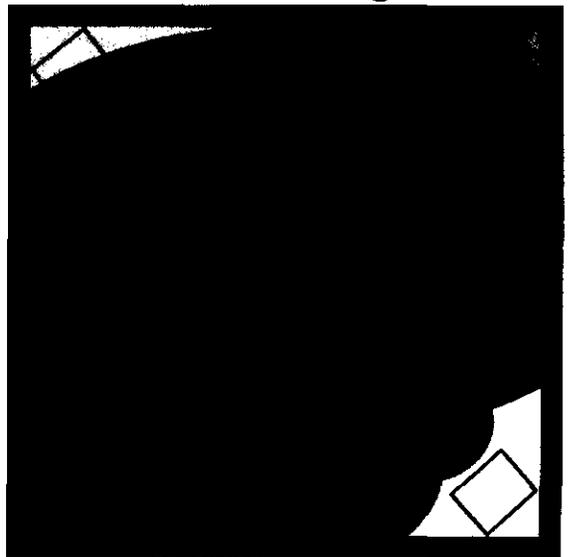
Living in Love



So Long



Sold Out



The Vine

Track List

	Track Name	Length
1.	Desert Oasis	5:24
2.	I Want	4:14
3.	Living in Love	4:18
4.	So Long	4:44
5.	Sold Out	4:54
6.	The Vine	4:25