

THESIS ABSTRACT

The Use of modern acoustic techniques to Overcome the problems of “Oud” sound recording

Sound recording techniques have evolved in the last decade largely, And the recorded materials become a very important tool, whether we'll use it educationally or even for entertainment. This development was accompanied with a breakthrough in methods of recording musical instruments of all kinds, especially with the entry of the digital world to this area and qualitative leap in hardware and tools used in it.

The Sound arises in form of waves converted when being received by special devices like Microphones in to electrical waves , and this new wave form matches the original wave form in intensity and number.and the new wave form could be recorded on magnetic tapes . and by reversing the process , waves that was recorded on the magnetic tapes converted to an electrical wave form then amplified again and the loud speakers turns it in to seismic waves of sound again.

After the digital world hits the sound recording world it Became possible to convert the electrical wave form to a new encrypted form and save it on a floppy or a hard drive , this process needs a special device called A/D convertor located in every sound card we have today , and the accuracy of the conversion method depends

on it. But in fact all these conversions cause some changes to the sound being recorded compared with the original.

Researcher has chosen this subject about using of modern acoustic techniques to overcome the problems of “Oud” sound recording, because of its importance in identifying the characteristics of the sound of this famous Oriental instrument and the best ways to gain access to a recorded sound closer to the origin, like many of the western instrument, which have methods to determine the types of devices and ways should be used when recording their sounds like classical guitar, violin and piano...

Research Objectives:

- 1 - The nature of the problems and characteristics of the sound of the “OUD” in the studio.
- 2 - The Reasons for the Quality instability When Recording “OUD” Sound in the Studio.
- 3 - Most modern audio technology that will help in solving the problems of Recording “OUD” Sound in the studio.

Research Sample:

The sample used consisted of a wide range of sound examples that was recorded for the “OUD” by modern Audio Picking patterns techniques for strings instruments , and analyzed using spectral analysis software.

Research Importance:

- Highlighting the characteristics of “OUD” Sound.
- Looking at the complications of “OUD” sounding, and the impact of that on the process of digital audio recording.
- Examine the causes of Quality instability of the sound recordings of this instrument.
- Pave the way for future studies to identify the sound characteristics of Oriental musical instruments.
- Provide a balance of additional scientific understanding of the “OUD” sound, which can be involved in the development of scientific and practical experience in this area.
- Encouraged to do further research in this area, as it is - to the knowledge of a researcher - there is no much research in this area in the Arab world.

Research Main Results:

1 - Voice of the “OUD” composed of a mixture of sounds, which

issued from three main parts of the instrument:

- Sounding body (sounding box + sounding board).
- Neck (especially in the region when meeting the instrument body) and that highlights the sound of the strings.
- Behind the bridge , and that highlights the picking sound with lots of midrange strings sound.

And unite together in a certain area around makes the full instrument sound.

2-The best microphones types used to capture the sound of the “OUD” is a condenser microphone, Because it can capture high frequencies with a flat response curve over the entire audio spectrum.

3 - Some problems of “OUD” sound recording is caused by handmade instability industry, which lead to different patterns of acoustic behavior.

4- Stereo Sound Picking patterns is the ideal solution to overcome the problem of the sound of “OUD” when recorded in the studio. And that because of its multiple options for audio capture “Oud” sound from all parts.

Research Recommendations:

1- Researcher recommends taking into account the specificity of "OUD" sounding patterns, especially during the recording in the studio. to obtain a recorded sound represents the real instrument sound.

2- Researcher recommends using advanced microphones for audio capturing "OUD" sound when recorded in the studio. First and foremost with condenser microphones, which has a flat and intensive response curve over the entire audio spectrum. Because of their high potential to capture the sensitivity and accuracy of "OUD" sound.

3- Researcher recommends Arab "OUD" makers to create a unified style of uniform standards unite while different types of timber found in every Arab country keeps personality reserved for.

4- Researcher recommend using the Stereo Sound Picking patterns while recording the "OUD" sound, which he sensed - a researcher - and through practical experience is not used in any way with this instrument, So as to improve the quality of recorded sound, thereby increasing trend for use in modern recordings.