INTERNATIONAL RESEARCH JOURNAL OF HUMANITIES AND INTERDISCIPLINARY STUDIES
(Peer-reviewed, Refereed, Indexed & Open Access Journal)
DOI : 03.2021-11278686 ISSN : 2582-8568 IMPACT FACTOR : 5.828 (SJIF 2022)

Microphone Techniques in Music

Dr. Prachi S. Halgaonkar
Assistant Professor in Music,
Shri Ganesh Arts College, Shivni-Kumbhari,
Akola (Maharashtra, India)
E-mail: pshalgaonkar60@gmail.com

DOI No. 03.2021-11278686 **DOI Link ::** https://doi-ds.org/doilink/04.2022-58879477/IRJHIS2204023

ABSTRACT:

It is wire to remember that Music is a wonderful reason for recording. Recording is a highly skilled craft combining art and science. For this microphone plays vital role. It is most important for musicians, artists, performer to be acquainted with technical knowledge. By these techniques one can tailor his own creations to be proud.

In tis paper the attempt is made to explain the microphone techniques in recording, performing situations. As it is difficult to identify the inventor of the microphones. Mic technique in recording situations is based on technical characteristics.

Analysis of the attempt results provide a guide in making the decision on what technique to use recording in different genres.

Keywords: *Microphones, Recording, Performance.*

INTRODUCTION:

The German physicist Johann Philipp Rcis design for a sound transmitter around 1861. The second attempt was that of Elisha Gray an American inventor he made a liquid transmitter using a diaphragm. The next attempt was by Alexander Graham Bell who designed for liquid transmitter.

David Edward Hughes designed a new kind of microphone using Carbon Granules loosely packed in an enclosed spaced. Thomas Elva Edison refined the Carbon granules microphone resulting in the carbon- button transmitter in1886. Marconi-Reiez transverse current carbon microphones. The first capacitor microphone was developed by E.C.Wente in 1917.

The first ribbon microphone also appeared around 1930 and is believed to have been developed by Henry Obson based on a modified ribbon loudspeaker. The Marconi Type A ribbon microphone was introduced in 1935 and became the microphone of choice for the BBC's radio

services. In 1958 Eugen Beyer changed all about with which is known as short diaphragm ribbon mic.

In 1924 Riegger came up with the principle of the RF condenser microphone. In 1946 techniques were improved by G.F. Hull in 1946 and J.J. Zaalberg Van Zelst in 1947. Rogers did a similar thing with a tunnel Diode in the 1960's one of the most important innovations of microphone design was the sound filed capsule in 1970's.

Objectives:

i) To improve the quality of performance by learning mic techniques.

ii) To build up good relations between musician/singer and audience.

iii) To improve performance by knowing scientific tools.

Research Methodology:

By learning scientific study of mic and performing practically by using different types mics.

Selection of the mic for audio recording:

Microphone are an interesting category of video tools. The use of mic. For video production is the same i.e., to convert acoustic energy into an electrical signal for use in recording. But at every point different microphones are to be used whether you are working in an audio production studio or shooting in the field, there is a mic type for you in your sound studio equipment.

Types of microphones:

- There are several types of recording mics:
- Large – diaphragm condenser microphone.
- Small – diaphragm condenser microphone.
- Dynamic instrument microphone.
- Live – vocal microphone.
- Ribbon microphone.
- Boundary microphone.
- Miniature microphone.
- Stereo microphone.
- Digital, Head worm, microphones.

Build in Microphones:

One or more mics are built in and is attached to camera. Most of the built-in mics would sound fine in a recording studio or vocal booth.

Handheld Mics:

Often called as stick mics.These are portable and durable too. Also are designed for rough use in a wide variety of challenging environments and applications.

Lavalier Mics:

Also known as lapel mic, a tiny thing that is typically clipped to a shirt jacket or tie can be attached with tiepins, magnets and even gaffer's tape necessary.

Shotgun Microphone:

Shotgun mics are long and tiny versatile enough to use in many situations mostly movie and TV sets.

Parabolic Miles:

It's highly specialized device often used in sports and other fields. It is like a laser, unused to pick up voices from a great distance.

Sidebar Wireless:

Any microphone can be wireless adds its own set of challenges.

Selection of mic is important from the point of work you are going to do.

Microphone technique for singers:

Mic technique is often overlooked as one of the skills you need to become a successful singer and performer. However, the way you use the microphone can affect your performance in many ways.

Get Comfortable with the Microphone:

Many singers when first starting out are very nervous when given a microphone for the first time & it often comes across in their performance. Feeling tense and holding a mic awkwardly can really affect your vocals more than you would imagine, so get to know the feeling as early as possible by practicing! If you don't own a microphone then use a prop; although it may seem a bit ; lame using a bottle or hairbrush it will definitely get you used to that feeling & soon that mic will be just like an extension of your arm & more importantly, your voice!

Sing into the Microphone:

Make sure you sing right into it. Its one of the simplest techniques but its so important. Singing directly into the microphone allows all of your vocals to be fully projected. Most microphones have a radius around them that detects noise, its important to hit this radius with every note you sing. Sing with the microphone too far away from your mouth and you won't allow the tones, dynamics & power of your vocal to be fully captured, already you could be at a disadvantage to other performers on stage who have mastered their technique.

Ideally you should keep the mic 1-2 cm from your mouth at all times except for the high or more powerful notes. It you turn and move round the stage always maintain the same distance and if you use it as part of your performance during instrumental breaksalways make sure you bring it back to your mouth. If you don't the projection of your vocal will be inconsistent and you'll lose key elements in the performance of your song.

Sing into the microphone how you would usually sing:

This may sound really obvious however there are many occasions when a singer has practiced their song without amplification, absolutely nailed every note and brought it to life with beautiful dynamics, overall, it's sounding just right! They then pick up a microphone and all of a sudden start singing with completely different power and volume and the whole thing just doesn't sound or feel like how they practiced it anymore. This is, especially vital for that all important sound check as the sound engineer will set your levels based on the vocals volume he or she hears. If that changes dramatically or is inconsistent in either the sound check or the actual performance they'll simply have guess when to put your vocal level up and down. Whether you manage to go,away with it or not, it will by no means result in you sounding the best you could have.

Avoiding Feedback:

Feedbackis that awful sound the microphone gives out and causes everyone to wince a little**.** One of the most common ways for a microphone to affect your performance is with feedback from the speakers or monitors. Take time to check where they're situated on the stage & simply avoid getting too close.

Avoiding Distortion:

Distortion occurs for a couple of reasons, one of them being a singer holding the microphones too close or too far to their mouth. The distance from your mouth to the microphone is essential as it can make your vocals sounds muffled and distant. The other reason a singer might notice distortion is when the volume is too high on their microphone, keep the volume low enough to allow you to project.

Volume Control:

A very common problem is singer's face during a performance is not getting the balance right between the mic and the audience so you hear yourself. This can vary a lot depending on the quality & production of the track. If you don't have a sound engineer, the best way to solve this is through trying out various settings until you're happy. Ideally have a third-party present standing near the back or the room where you'll be performing to ensure the microphone is loud enough for you to be heard but not be overpowering.

High Notes:

Hopefully you will have practiced to your song to give dynamics to the performance and emphasis the low on high notes. This is the time you will need to pull the microphone away from your mouth on the high notes or risk feedback and being too loud – how far you pull away really depends on the volume and power you sing them with. For too often this is ill timed by singers they pull the mic away too quickly thus losing the projection where it's need at its most for impact.

Microphone Tricks:

Having strong microphones technique can really help a singer to enhance their performance. Breath control when holding a note is crucial. If you have little breath left by the end of that all important sustained note, a sudden dip of power is going to be very noticeable to you and your audience. Try pulling the microphone away from you then bring it back as the note ends, it sounds as if you held it consistently & the audience will be left remembering the power you still had to the very last second- very impressive.

CONCLUSION:

If you want to record audio you will obviously need a microphone. The selection of proper mic according to your work is important.

In recent years Laser – velocity transducer will be introduced as the 'Optical microphones' has started to bear fruit. High-quality optical microphones are under construction. Development is a continuous process hoping to improve techniques in the use of microphones in different ways. The proper choice of mic will help to get a feel for the mic and will make you look more confident and professional when you are watched.

REFERENCES:

1. Bruce and Jenny Barttett Practical Recording Techniques, 13-35/9, G.T. Karnal Road, Delhi
2. Microphone Techniques for singer's source internet.
3. Avaaz Sadhana Shastra – BR Deodhar (Marathi)
4. The Record News [the annual magazine of the Society of Indian Record Collectors (SIRC)], Editor: Dr. Suresh Chandvankar, Mumbai.