SPECTACOLO SOUND DESIGN COURSE

HOSTED BY MASHIRIKA PERFORMING ARTS &MEDIA COMPANY

TRAINING

BY

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Recap

- What is sound
- Speed of sound
- Amplitude and Frequency
- Different career opportunities
- Terminologies

Basic Studio Setup and Stage Sound

Basic Studio Setup and Stage Sound

- We shall be able understand the basic studio setup
- Routing and the audio signal path from the microphone to the Speakers
- Understand the equipment required to record and process Audio
- Transfer this knowledge to bigger systems like in theaters and other events
- We shall explore how acoustics affect Perfomance

Basic Principles
Sound for Studio

- Input and Output
- Common cables and ports

Studio Equipment

Analogue vs Digital

- In Studio we are dealing with Data, we are simply trying to find ways in which to capture it with the least possible distortion. Data in studio will represent itself in two ways,

1. In the Analogue Realm,
2. Digital realm.

Studio Equipment

Analogue

In terms of Audio, analogue refers to sound that is captured, stored, or transmitted in a continuous signal format, representing the actual sound waves produced by instruments or voices.

Examples of analogue

- Microphones and Mic pre-amps
- Electronic signal cables. ie, Xlr, Aux cables, Trs, Rca,
- Speakers
- Amplifiers
- Cross overs
- Mixing Consoles
- Compressors
- Equalizers, etc

Studio Equipment

Digital

In terms of Audio, Digital refers to audio signals that have been converted from Analogue to a language that a computer can understand. (Binary Language [0,1]).

Examples of Digital Equipment include;

1. Audio Interfaces
2. Computers
3. Some microphones
4. Network cables and Usb Cables
5. Digital Signal Processors (DSPs)
6. Digital Mixers, etc
7. MIDI

Connecting The Equipment

Cable types

Connecting The Equipment

Connecting The Equipment

Microphone types

Connecting The Equipment

Amplifier

Connecting The Equipment

Analogue Mixer

Connecting The Equipment

Digital Mixer

Connecting The Equipment

Network Cable

SOUND FOR THEATRE

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Sound in Theater

Acoustics

- Before setup, First understand your space. Theatres are usually acoustically treated spaces to enable the audience focus on the performance.
- Acoustics cover two most important things

1. Isolation/ sound proofing
2. Room treatment

- Sound proofing helps to keep external sound from interfering with a space and also prevents theater sound from going outside.
- Room Treatment helps on how sound behaves inside the space, ie,

a) Reducing sound reflections, ie echoes.

b) Frequency build up and cancellation

c) Improving intelligibility

It is achieved through absorption and Diffusion.

Absorption and diffusion are forms of room treatment centered on better sound quality. Sound diffusion spreads out sound energy with the use of acoustic diffuser panels. Sound absorption, on the other hand, makes use of porous material to soak up some of that energy.

Sound in Theater

Speaker Placement

Speakers in Theater are mainly to enhance the audience audio experience by;

1. Improving Speech intelligibility by increasing the volume levels of the cast
2. Allowing for dynamic control for music, dialogue and effects
3. Mixing onstage live sounds with pre-recorded sounds to enhance the story

Once Audience Speakers are introduced, Levels in the space increase thus the need for performers to have stage monitors.

Stage monitors also help the performers to clearly hear audio cues, ie music, sfx and dialogue on stage

Speaker Placement

Sound in Theater

Speaker Placement

- We have two speaker sets,

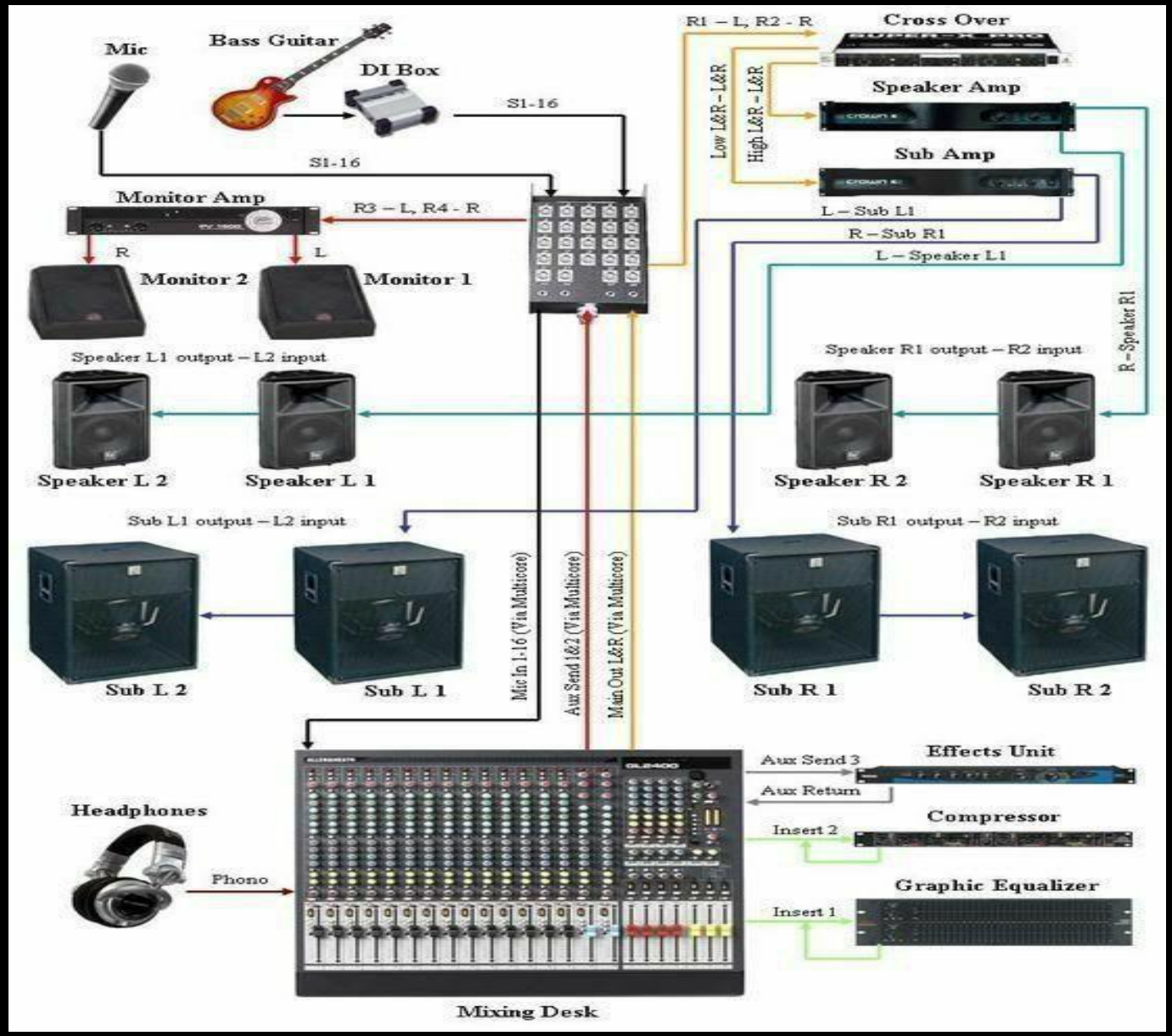
1. Front of house/ Audience
2. Stage monitors.

Audience speakers face the audience and must face against the stage to prevent feedback into performer microphones

Stage monitors face the performer, but sometimes they are hidden in places where they are able to serve enough sound to the stage.

Monitors/ stage wadges are also placed in a way that doesn't interfere with the source sound ie, microphones and instruments. Otherwise, they also might be recipe for feedback.

Signal Flow and Routing



Sound in Theater

Choice of Microphones

- The right microphones must be picked for Performers/stage
- Common mics for theater include,

1. Dynamic microphones,
2. Lavalier mics
3. Head worn mics
4. Small diaphragm Condenser mics
5. Boundary microphones

Sound in Theater

Research the following about Microphones

- Microphones pickup patterns
- Rf (Radio Frequency) microphones
- Microphone dynamic range
- Microphone frequency Response

Have a blessed week

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Illuminating Sound