

**Basics of Radio Programming and Productions**  
**BA(JMC) 203**  
**UNIT IV**

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**Syllabus- Unit 4**

- Editing and Mixing
- Adding Sound Effects and Music
- Audio Filters: Types, Need and Importance
- Evaluation: Process and Measurement Techniques

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**Editing and Mixing**

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 **Editing and Mixing**

- Sound editing essentially consists of removing unwanted portions in the recorded material and adding some new ones. Gone are the days when one used to record audio on analog tape or spool and edit the programme by transferring it to another tape. Now we all record audio on digital equipment and save audio as discreet files. It is these files that one trims and arranges them in an order to produce a programme. Some feel that the final shape of the programme is decided right at the time of scripting.

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 **Editing and Mixing**

If one has done proper research and has come up with a good script, recording is likely to be done appropriately. If recording is done

- appropriately, editing becomes easy. If you have recorded your programme:
- Using the right microphone
- By ensuring that the recorder/ microphone is at the right distance from the talent

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 **Editing and Mixing**

- By maintaining the right audio levels
- And saved your recordings properly and have a backup of the same Then you have made your editing process much easier and simple.
- However, you will agree that not all programmes are recorded in a linear fashion. Most programmes, be it on the field or in the studio, are recorded in a nonlinear fashion. That means recordings are mostly based on the availability of talent and the studio. However, since the audio clips are not going to be in the order of playback or there may be bits that need exclusion, one needs to edit them. All it requires is trimming parts of unwanted audio and arranging them in the desirable order for broadcast.
- One edits to:

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- Join pieces of audio to create meaningful audio
- Omit portions of audio that are considered unwanted, irrelevant, distracting or of low quality
- Increase or decrease the duration of a programme
- Direct the listener's interest from one aspect of the programme to another
- Reveal information in stages
- Give desired shape and structure to the programme.

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- **Automated Dialogue Replacement (ADR):** Also called re-recording or dubbing, this process involves completely replacing the audio recorded on location with the same script of dialogues / spoken words recorded afresh in the studio. Usually, ADR is a process practiced in the film industry, and only occasionally in video production, but not in radio. In the radio context, since there is no accompanying picture recording, it is better to record the location sounds (ambience) separately and dialogue separately, and finally mix them in suitable proportion at the post- production stage. Of course, this method is adopted only if you are faced with excessive noise in outdoor situations (e.g., railway platforms, a busy market area, a construction site at which a road roller or a concrete mixer are operating).

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- **Sound design:** In sound design we try to enhance the originally recorded audio with audio filters (frequency manipulation devices), and special effects as may be required (glass breaking, footsteps, gun shots etc), so that such sounds are reproduced more emphatically than by recording them on the spot. Such special effects are available as off-the-shelf material in the market. They can also be downloaded from the internet.

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- All editing is done using software on a Digital Audio Workstation (DAW). A DAW, put simply, is a computer with a sound card that is capable of processing audio and outputting it in the form of digital files using a software solution as an interface. We will learn more details about using software to edit our programmes. But before that, it is important to understand that irrespective of the software used, all digital editing involves the following procedures:
  - Importing audio files
  - Juxtaposing, rearranging and trimming the files
  - Applying effects to audio (where necessary)
  - Outputting the edited programme as a composite audio file

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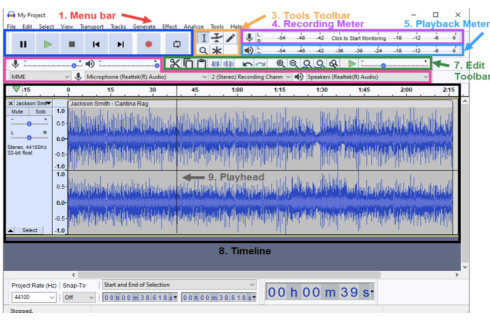
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 **Interface**

- Menu bar: access general program operations such as save, effects, and help.
- Play Controls: controls from left to right: pause, play, stop, skip to start, skip to end, record.
- Tools Toolbar: tools used to interact with the project.
- Recording Meter: monitor the recording volume level.
- Playback Meter: monitor the playback volume level.
- Edit Toolbar: editing functions, from left to right: cut, copy, paste, trim, silence, auto, re-do, sync lock, zoom in/out, fit selection/project.
- Device Toolbar: set the recording and playback volume, as well as the recording and playback devices (microphones and speakers).

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- Timeline: composed of audio tracks, where editing and recording take place.
- Play- head: indicated the current time position of the playback audio. To move the playhead, use the Selection tool and click within the track.

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 **Sound Effect**

- A sound or audio effect is defined as a sound that has been enhanced or entirely created through artificial means. The first use of the term dates back to the first-ever radio productions. Obviously, those were full of the most primitive sound effects, when people went to incredibly painstaking lengths to captures the sounds that can now be generated with the mere push of a button.

Why are Sound Effects Important

- REATE A UNIQUE STYLE
- Mixing your tracks with the perfect combination of effects is a great way to get a sound unlike anyone else's. Since there is such a vast number of possibilities to pick from, you can always find some combination of sounds and filters that has never been done before.

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- It might take many hours of experimentation in the studio, but this kind of button-pushing pays off when people actually recognize your work, all because you made it stand out with a unique sound effect.
- EXPRESS CREATIVITY
- Creativity ought to be central for any audio producer. For you to maintain your sense of inspiration and musical freshness throughout your entire career, the spark and desire to be creative in every way imaginable always has to be there. With music, there are always going to
- be infinite elements to experiment with, allowing you to get creative. Sound effects open up tools that will drive your creative work even further.

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- NOVELTY
- Sometimes, effects can be used with the intention of having them stick out and grab the listener's ear. Depending on the audio production style, it might be fitting to have police sirens, crowd chatter, or cash register effects to emphasize the lyrical content of the song. In other cases, a sound might be appropriate even if it doesn't literally match what's happening in the music.
- MUSICAL OR EMOTIONAL EMPHASIS
- Music is an emotional art, and audio production is meant to be a way of driving that art to new heights.

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- When an audio producer wants to increase the emotion in the climactic end of a chorus or through a driving bridge, effects provide a dynamic range of possibilities without the need to record any new parts.
- Mixing and mastering a record means sitting and listening to the completed work from start to finish, finding the highs and lows, and exploring the track's overall journey. This holistic view of the work is what makes the audio production phase of making music the ideal time to find these perfect placements of emotion.

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## Audio Filters

- Audio filters are simple yet powerful tools for shaping sound that have been in use for a long time, but are still very important to modern production.
- Filters have the ability to completely transform the tone of any audio and are most often used to remove frequencies. But filters are also used to enhance, increase or decrease the level of existing frequencies because once a frequency range has been isolated, it can then be boosted.
- There are many different filter types you are likely to come across when producing, mixing, and using synthesizers. As mentioned, the name usually gives you a pretty good idea about what the filter does to the sound. Sometimes, it is not so clear, and it is always good to brush up on your terminology anyway.

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 **Low Pass Filters**

- This is arguably the most common filter type. Simply put, a low-pass filter passes frequencies that are lower than the cutoff, and progressively cuts the frequencies above the cutoff. This filter type is often abbreviated to just LP or LPF. Sometimes, a low-pass filter is referred to as a high-cut filter, particularly on EQs.
- We use low pass filters to:
  - Isolate the bass from a recording.
  - Remove harsher high frequencies and create warmth.
  - Preserve the fundamental frequency of a sound whilst removing harmonics.
  - Create low shelf filters.

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 **High Pass Filters**

- We use high-pass filters to:
  - Remove rumble and any other noise below the lowest fundamental frequency of a sound.
  - Remove basslines and kick drums when sampling and making mixes.
  - Create tension before a drop, so there is more of an impact when the low-end returns.

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 **Evaluation Process**

- Broadcasting, either on radio or television is one of the public services available to the citizens of the country to get information and education and it is also one of the means of entertainment to a large number of people. In commercial language it could be described as one of the ranges of goods and services marketed to users or consumers. However, broadcasting has certain unique features. In broadcasting, no visible 'sales' take place.
- The mechanism to get concrete evidence of the extent of listening to channels or specific programmes is called Programme Ratings which are being widely used the world over. To get these ratings, various methods have been evolved.

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 **Methods Of Audience Measurements**

- Survey Research: The method generally used in all radio audience measurement studies is collecting information on radio listening through sample surveys. This method of collecting data is called Survey Research Method in social sciences.
- Baseline Studies: Radio audience measurement studies require different types of information. As we have seen, for calculating the reach we need to know details about the total population of the area, its different characteristics and the number among this population listening to radio in general and to different channels available in the area.
- Day-after Recall: The most extensively used technique for collecting information on listening to specific programmes in radio audience measurement studies is described as 'Day-after Recall' method.

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- In this method, a representative and adequate number of respondents are drawn from among radio listeners and are to be interviewed face-to-face by trained interviewers. The respondents will be requested to recall the full details of their radio listening on the previous day of the interview. If the interview is conducted on a Monday, full details about listening on Sunday will be collected. Questions on only the previous day's listening are asked as it is well known that human memory is short and very few would be able to remember what they listened to three days or a week back. In some cases, the details of the programmes broadcast on.

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- different channels are either supplied or read out to help the memory of
- the respondents.

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- Self-completion Diaries. Another commonly used method for collecting information about listening to specific programmes is by requesting a representative sample of respondents to keep a diary of their radio listening. For this purpose, respondents are provided with a printed diary listing the channels and times of day for all the seven days of a week. In such studies, the interviewers will first contact the selected respondents and give proper instructions about the filling-up the diaries particularly requesting them to complete the diary each day.

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- Audiometers and People Meters: A device called Audiometer (a particular brand name was audiometer) attached to a radio set can use the electronic technology to record when that radio set was switched on and to which channel (meter bands) it was tuned. It will also record the shifts in the channels made at different timings. For example, if a particular radio set was switched on at 8:00 AM to channel A, and shifted to channel B at 8:30 AM and switched off at 8:50 AM and again switched on to Channel C from 6:00-7:00 PM. All these details will be recorded in the audiometer. This technology can be used and was being used extensively to collect data on radio listening.

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