Radio Journalism & Production

Tutorial

Unit-I Radio as a medium
1. Radio as a medium of mass communication in today's context

Radio is widely used mass communication medium and has a great potentiality in dissemination of information as radio signals cover almost entire population. More than 177 radio stations are there across the country. About 97 percent of the population is reached by the radio.

Radio being a convenient form of entertainment caters to a large audience. With the advent of transistors this medium hrs reached the common man in urban and rural areas of India, though the utilization of radio is more among rural elites.

It has advantages over the other mass media like television and newspapers in terms of being handy, portable, easily accessible and cheap. It is the most portable of the broadcast media, being accessible at home, in the office, in the car, on the street or beach, virtually everywhere at any time.

Radio is effective not only in informing the people but also in creating awareness regarding many social issues and need for social reformation, developing interest and initiating action.

For example, in creating awareness regarding new policies, developmental projects and programs, new ideas etc. It can help in creating a positive climate for growth and development.

It widens the horizons of the people and enlightens them, thereby gradually changing their outlook towards life. Research has shown that radio is an effective medium for education when it is followed up with group discussion and question- answer session.

In India, radio with its penetration to the rural areas is becoming a powerful medium for advertisers. It gets 3 percent of the national advertising budget. Radio is still the cheap alternative to television, but is no longer the poor medium in advertising terms.

Because radio listening is so widespread, it has prospered as an advertising medium for reaching local audiences. Moreover, radio serves small highly targeted audiences, which makes it an excellent advertising medium for many kinds of specialized products and services.

As far as commercials are concerned, no one is able to tune out commercials easily as is possible with remote control devices and VCRs. It is thought that radio's ability to attract local

advertisers hurts mainly newspapers, since television is less attractive to the small, local advertiser.

As far as audience is concerned radio does not hamper persons mobility. As a vehicle of information for masses it is still the fastest. For instance, it would take less time for a news reporter for radio to arrive on the spot with a microphone and recorder than the same for TV along with a shooting team and equipment.

Another important feature of radio as mass medium is that it caters to a large rural population which has no access to TV and where there is no power supply. In such places, All India Radio's programmes continue to be the only source of information and entertainment. Moreover, AIR broadcasts programmes in 24 languages and 140 dialects.

"Radio should be treated akin to newspapers in view of the fact that it is local, inexpensive, linked to communities, has limited band width and operates through simple technology".

The economics of radio does allow tailoring programme content to the needs of small and diverse audiences. Thus it is economically viable to recast a programme for broadcast to audiences in different sub regional, cultural and linguistic context.

This enhances the value of radio as a medium in networking developmental programmes. Thus, it offers many possibilities in networking, from locally or regionally co-ordinated broadcasts and interactive exchange of queries and data.

It can serve as a standalone medium of information dissemination or a support medium for curricular learning, jointly with print material or with fieldwork.

Kapoor, Director general of AIR (1995) said, " Radio is far more interactive and stimulating medium than TV where the viewer is spoon-fed. Radio allows you to think, to use your imagination. That is why nobodyever called it the idiot box".

2. Characteristics of radio

Directed Waves

Radio frequencies can be tuned to produce communications at specific points on a radio unit, such as those found on the AM/FM dial on a car unit. This is based on the characteristics of radio frequency resonance, in which the sending unit and the receiving unit agree on a particular frequency in order to create synchronous communications. Therefore, radio sometimes is referred to as a directed wave.

Unlimited Range

Radio waves are the result of electromagnetic radiation based on frequencies, or the speed and length of a wave as it moves outward from its radiation point. Different radio frequency

waves create different radio receiving ranges. Long waves tend to operate more efficiently at local ranges where shorter waves can reflect off the ionosphere and ultimately travel around the world. Therefore, depending on the particularly frequency, and climatic conditions radio waves can be generated on the basis of an unlimited range capability.

Interference

Radio interference is essentially a process where one frequency wave is canceled by another. Typically this has to do with the signal gain, or volume, of an adjacent frequency. However, there are other limiting factors, such as physical structures that block a particular radiated frequency from reaching its intended receiver. There also are hybrid electromagnetic limitations, such as CB radio calls, that might be on the same frequency and produce enough power to overcome a local receiver.

3. Limitations of radio

Radio has many inherent limitations. It provides one way channel of communication. Therefore, no feedback regarding the messages can be received. Since the listener's attention is held only by the sound, messages communicated through radio can reach only those people who listen carefully and intelligently.

One has to be very attentive to receive the messages from radio otherwise he misses a part of the message. Radio lacks the pictorial quality provided by television and motion pictures. Moreover, no visuals can be used with radio to support the messages. Radio is not suitable for all types of commercials as some require illustration or demonstration.

Since radio conveys messages through sound only, it demands a habit of skillful listening which generally people lack. Mohanty (1992) rightly pointed out that radio may broadcast a well developed lesson, but cannot develop a lesson with the audience.

With many people to receive a complete detailed lesson or a programme through radio becomes very taxing or boring as it tends to become monotonous at times.

Rahman (1977) said, "Radio broadcast is evanescent, impermanent and rarely sufficient in itself for the case of illustration intended in educational broadcasting. It cannot be turned to, studied or re-read at leisure".

Awasthy has aptly said that in radio the artist and his audience are nowhere near each other. In the physical sense they are nonexistent to each other.

4. Three Modes of transmission: AM, SW and FM

Broadcasting by radio takes several forms. These include AM and FM stations. There are several subtypes, namely commercial broadcasting, non-commercial educational (NCE) public broadcasting and non-profit varieties as well as community radio, student-run campus radio stations, and hospital radio stations can be found throughout the world. Many stations broadcast on shortwave bands using AM technology that can be received over thousands of miles (especially at night). For example, the BBC, VOA, VOR, and Deutsche Welle have transmitted via shortwave to Africa and Asia. These broadcasts are very sensitive to atmospheric conditions and solar activity.

Nielsen Audio, formerly known as Arbitron, the United States-based company that reports on radio audiences, defines a "radio station" as a government-licensed AM or FM station; an HD Radio (primary or multicast) station; an internet stream of an existing government-licensed station; one of the satellite radio channels from XM Satellite Radio or Sirius Satellite Radio; or, potentially, a station that is not government licensed.

Shortwave

Shortwave is used largely for national broadcasters, international propaganda, or religious broadcasting organizations.

AM

AM stations were the earliest broadcasting stations to be developed. AM refers to amplitude modulation, a mode of broadcasting radio waves by varying the amplitude of the carrier signal in response to the amplitude of the signal to be transmitted. The medium-wave band is used worldwide for AM broadcasting. Europe also uses the long wave band. In response to the growing popularity of FM stereo radio stations in the late 1980s and early 1990s, some North American stations began broadcasting in AM stereo, though this never gained popularity, and very few receivers were ever sold.

The signal is subject to interference from electrical storms (lightning) and other electromagnetic interference (EMI).One advantage of AM radio signal is that it can be detected (turned into sound) with simple equipment. If a signal is strong enough, not even a power source is needed; building an unpowered crystal radio receiver was a common childhood project in the early decades of AM broadcasting.

AM broadcasts occur on North American airwaves in the medium wave frequency range of 525 to 1705 kHz (known as the "standard broadcast band"). The band was expanded in the 1990s by adding nine channels from 1605 to 1705 kHz. Channels are spaced every 10 kHz in the Americas, and generally every 9 kHz everywhere else.

AM transmissions cannot be ionospherically propagated during the day due to strong absorption in the D-layer of the ionosphere. In a crowded channel environment, this means that the power of regional channels which share a frequency must be reduced at night or directionally beamed in order to avoid interference, which reduces the potential nighttime audience. Some stations have frequencies unshared with other stations in North America; these are called clear-channel stations. Many of them can be heard across much of the country at night. During the night, absorption largely disappears and permits signals to travel to much more distant locations via ionospheric reflections. However, fading of the signal can be severe at night.

AM radio transmitters can transmit audio frequencies up to 15 kHz (now limited to 10 kHz in the US due to FCC rules designed to reduce interference), but most receivers are only capable of reproducing frequencies up to 5 kHz or less. At the time that AM broadcasting began in the 1920s, this provided adequate fidelity for existing microphones, 78 rpm recordings, and loudspeakers. The fidelity of sound equipment subsequently improved considerably, but the receivers did not. Reducing the bandwidth of the receivers reduces the cost of manufacturing and makes them less prone to interference. AM stations are never assigned adjacent channels in the same service area. This prevents the sideband power generated by two stations from interfering with each other. Bob Carver created an AM stereo tuner employing notch filtering that demonstrated that an AM broadcast can meet or exceed the 15 kHz baseband bandwidth allotted to FM stations without objectionable interference. After several years, the tuner was discontinued. Bob Carver had left the company and the Carver Corporation later cut the number of models produced before discontinuing production completely.

FM

FM refers to frequency modulation, and occurs on VHF airwaves in the frequency range of 88 to 108 MHz everywhere except Japan and Russia. Russia, like the former Soviet Union, uses 65.9 to 74 MHz frequencies in addition to the world standard. Japan uses the 76 to 90 MHz frequency band.

Edwin Howard Armstrong invented FM radio to overcome the problem ofradio-frequency interference (RFI), which plagued AM radio reception. At the same time, greater fidelity was made possible by spacing stations further apart in the radio frequency spectrum. Instead of 10 kHz apart, as on the AM band in the US, FM channels are 200 kHz (0.2 MHz) apart. In other countries, greater spacing is sometimes mandatory, such as in New Zealand, which uses 700 kHz spacing (previously 800 kHz). The improved fidelity made available was far in advance of the audio equipment of the 1940s, but wide interchannel spacing was chosen to take advantage of the noise-suppressing feature of wideband FM.

Bandwidth of 200 kHz is not needed to accommodate an audio signal — 20 kHz to 30 kHz is all that is necessary for a narrowband FM signal. The 200 kHz bandwidth allowed room for ±75 kHz signal deviation from the assigned frequency, plus guard bands to reduce or eliminate adjacent channel interference. The larger bandwidth allows for broadcasting a 15 kHz bandwidth audio signal plus a 38 kHz stereo "subcarrier"—a piggyback signal that rides on the main signal. Additional unused capacity is used by some broadcasters to transmit utility functions such as background music for public areas, GPS auxiliary signals, or financial market data.

The AM radio problem of interference at night was addressed in a different way. At the time FM was set up, the available frequencies were far higher in the spectrum than those used for AM radio - by a factor of approximately 100. Using these frequencies meant that even at far higher power, the range of a given FM signal was much shorter; thus its market was more local than for AM radio. The reception range at night is the same as in the daytime. All FM broadcast transmissions are line-of-sight, and ionospheric bounce is not viable. The much larger bandwidths, compared to AM and SSB, are more susceptible to phase dispersion. Propagation speeds (celerities) are fastest in the ionosphere at the lowest sideband frequency. The celerity difference between the highest and lowest sidebands is quite apparent to the listener. Such distortion occurs up to frequencies of approximately 50 MHz. Higher frequencies do not reflect from the ionosphere, nor from storm clouds. Moon reflections have been used in some experiments, but require impractical power levels.

The original FM radio service in the U.S. was the Yankee Network, located in New England. Regular FM broadcasting began in 1939 but did not pose a significant threat to the AM broadcasting industry. It required purchase of a special receiver. The frequencies used, 42 to 50 MHz, were not those used today. The change to the current frequencies, 88 to 108 MHz, began after the end of World War II and was to some extent imposed by AM broadcasters as an attempt to cripple what was by now realized to be a potentially serious threat.

FM radio on the new band had to begin from the ground floor. As a commercial venture, it remained a little-used audio enthusiasts' medium until the 1960s. The more prosperous AM stations, or their owners, acquired FM licenses and often broadcast the same programming on the FM station as on the AM station ("simulcasting"). The FCC limited this practice in the 1960s. By the 1980s, since almost all new radios included both AM and FM tuners, FM became the dominant medium, especially in cities. Because of its greater range, AM remained more common in rural environments.

5. Different types of radio stations

Analog Radio

Analog radio consists of two main types: AM (*amplitude modulation*) and FM (*frequency modulation*). Analog radio station frequently feeds only one transmitter and referred to as an AM station or an FM station in the U.S. But it is quite possible for a station to feed both transmitters in a similar area, or to feed more than one transmitter covering different areas. In either case, AM or FM refers only to a particular transmitter and not to the entire station. The latter arrangement is becoming widespread throughout the U.S.

AM radio uses the long-wave band in some nations. This long-wave band comes with frequencies that are fairly lower than the FM band, and having slightly different transmission features, better for broadcasting over long distances. Both AM and FM are in use to broadcast audio signals to home, car, and moveable receivers.

Digital Radio

Four standards for digital radio systems exist worldwide: IBOC (In-Band On-Channel), DAB (Digital Audio Broadcasting), ISDB-TSB (Integrated Services Digital Broadcasting-Terrestrial Sound Broadcasting), and DRM (Digital Radio Mondiale). All are different from each other in several respects.

- **IBOC**

A company named iBiquity Digital Corporation, with a trademarked name of *HD Radio,* developed IBOC and still continues to manage it. Introduced for a regular use in 2003, it's now in frequent in the U.S. More than 2,000 U.S. AM and FM stations are using the IBOC digital radio services today. The majority of U.S. HD radio stations are using FM band, and most of those are offering one or more multicast services now. Today, IBOC stations broadcast two versions of its primary content: analog and digital. So they're serving both legacy and new receivers using the same broadcast channel.

- **DAB**

Also known as *Eureka 147* in the U.S. and as *Digital Radio* in the U.K., DAB comes with a number of advantages similar to IBOC. But it is fundamentally different in its design. Unlike IBOC, DAB cannot share a channel with an analog transmit. So it needs a new, dedicated band. Each DAB broadcast also needs much more band as it consists of multi-program services (typically 6 to 10, depending on quality and the amount of data it carries). This makes it unusable

by a typical local radio station. It is generally implemented with the cooperation of several broadcasters, or by a third-party aggregator that acts as service operators for broadcasters.

Recently, improved versions of DAB, known as DAB+ and DAB-IP, have been developed. These developments increase the range of DAB signal. Today, almost 40 countries worldwide have DAB services on air (mostly in Europe), and others are thinking about the adoption of it or one of its variants.

- **ISDB-TSB**

Specifically developed for Japan in 2003, ISDB-TSB is the digital radio system used for multi-program services. It is currently using transmission frequencies in the VHF band. A unique feature of ISDB-TSB is that the digital radio channels are intermingled with ISDB digital TV channels in the similar broadcast.

- **DRM**

DRM is a system developed primarily as a direct substitute for AM international broadcasting in the short-wave band. DRM uses the similar channel plan as the analog services, and, with some limitations and changes to the analog service, a DRM broadcast can share the same channel with an analog station, existing channel allocations DRM is a single audio channel system when used with. An enhanced version is DRM +, introduced in 2007 for the VHF band. This improvement presents two-channel and surround-sound capability.

Sirius XM

Sirius XM is the combination of two similar but competing satellite radio services: *XM Satellite Radio* and *Sirius Satellite Radio.* XM and Sirius, which still operate separately at the retail level, are subscription services. They broadcast more than 150 digital audio channels intended for reception by car, portable, and fixed receivers. These provide coverage of the complete continental United States, much of Canada, and parts of Mexico.

Internet Radio

Many radio stations are now using online streaming audio services to provide a simulated broadcast of their over-the-air signals to web listeners. A broadcaster may also offer additional online audio streams that are re-purposed, time-shifted, or completely different from their on-air services. Because no scarcity of bandwidth or obligation for licensing of online services exists, broadcasters may offer as many services as they wish. Unlike over-the-air broadcasting, web

distribution is delivered to end-users by the third-party telecommunication providers on a nationwide or worldwide basis.

Unit-II Radio Formats

A **radio format** or **programming format** (not to be confused with broadcast programming) describes the overall content broadcast on a radio station. In countries where radio spectrum use is legally regulated (such as by OFCOM in the UK), formats may have a legal status where stations are licensed to transmit only specific formats.

Radio formats are frequently employed as a marketing tool, and are subject to frequent change. Music radio, old time radio, all-news radio, sports radio, talk radio and weather radio describe the operation of different genres of radio format and each format can often be sub-divided into many specialty formats.

List of formats

Formats constantly evolve and each format can often be sub-divided into many specialty formats. Some of the following formats are available only regionally or through specialized venues such as satellite radio or Internet radio.

Music-oriented formats

Pop/Adult Contemporary

- Contemporary hit radio (CHR), occasionally still informally known as top-40 / hot hits
- Adult contemporary music (AC)
- Adult/variety hits - Broad variety of pop hits spanning multiple eras and formats; Jack FM, Bob FM.
- Classic hits – 1970s/1980s-centered (previously 1960s-1970s) pop music
- Hot adult contemporary (Hot AC)
- Lite adult contemporary (Lite AC)
- Modern adult contemporary (Modern AC)
- Oldies – Late 1950s to early 1970s pop music
- Soft adult contemporary (soft AC)

Rock/Alternative/Indie

- Active rock
- Adult album alternative (or just adult alternative) (AAA or Triple-A)
- Album rock / album-oriented rock (AOR)

- Alternative rock
- Classic alternative
- Classic rock[3]
- Lite rock
- Mainstream rock
- Modern rock
- Progressive rock
- Psychedelic rock
- Rock
- Soft rock

1. Why formats?

Flip on the radio and you can immediately tell if the station you're hearing plays rock and roll. In the radio industry, radio formats aren't that simple. Popular music is divided into formats that radio stations use to design playlists to appeal to certain audiences.

Every radio station has its own personality, through the music it plays, its on-air talent and even its jingles. But most stations fall under specific radio format categories that are used to track audiences and attract advertisers so the station can build its media brand.

2. Simple announcements

Public service announcements, or PSA's, are short messages produced on film, videotape, DVD, CD, audiotape, or as a computer file and given to radio and television stations. Generally, PSA's are sent as ready-to-air audio or video tapes, although radio stations (especially community or public stations, such as campus radio or National Public Radio affiliates) sometimes prefer a script that their announcers can read live on the air. They can be done very simply with a single actor reading or performing a message, or they can be elaborate, slickly-produced messages with music, dramatic story-lines, and sound or visual effects.

Broadcast media -- radio and television -- are required by the Federal Communications Commission (FCC) to serve "in the public interest." Most stations use PSA's as one of the ways they meet this requirement. While they aren't required to donate a fixed percentage of air time per day to PSA's, stations do have to state in their licensing and renewal applications how much air time they plan to devote to PSA's. Most stations donate about a third of their commercial spots to non-commercial causes; in other words, if a station has 18 minutes of commercials in a given hour, six minutes of that will probably be devoted to PSA's.

3. Radio talks/commentaries/comments

Talk radio is a radio format containing discussion about topical issues and consisting entirely or almost entirely of original spoken word content rather than outside music. Most shows are regularly hosted by a single individual, and often feature interviews with a number of different guests. Talk radio typically includes an element of listener participation, usually by broadcasting live conversations between the host and listeners who "call in" (usually via telephone) to the show. Listener contributions are usually screened by a show's producers in order to maximize audience interest and, in the case of commercial talk radio, to attract advertisers. Generally, the shows are organized into segments, each separated by a pause for advertisements; however, in public or non-commercial radio, music is sometimes played in place of commercials to separate the program segments. Variations of talk radio include conservative talk, hot talk, liberal talk (increasingly known as progressive talk) and sports talk.

While talk radio has historically been associated with broadcast radio, starting around 2005 the technology for Internet-based talk-radio shows became cost effective in the form of live Internet website streaming and podcasts. Now, it is possible for an individual to use a variety of services to host an Internet-based talk-radio show without carriage by a traditional radio station. In addition, TV programming from talk and news outlets such as BBC, CNN, Bloomberg and Fox is now often available expanding the world of talk radio further. Talk radio listening is enjoyed not only on radios, but a wide variety of other devices and services including PCs using iTunes, station directories such as TuneIn, show directory smartphones with apps such as Stitcher and time-shifting services like DAR.fm

4. Radio interviews

Radio is often considered the medium which fits most comfortably with academic discussion. A radio interview generally offers a wider scope to discuss your field than a TV interview, and as an employee at the University you probably feel comfortable expressing yourself through words and language.

Radio interviews can either take place in the studio or over the phone. It's important to feel well prepared before setting step in the studio, or before the phone rings.

5. Radio discussions

Radio Discussion is a radio format containing discussion about topical issues and consisting entirely or almost entirely of original spoken word content rather than outside music. Most shows are regularly hosted by a single individual, and often feature interviews with a number of different guests. Talk radio typically includes an element of listener participation, usually by broadcasting live conversations between the host and listeners who "call in" (usually via telephone) to the show. Listener contributions are usually screened by a show's producers in order to maximize audience interest and, in the case of commercial talk radio, to attract advertisers. Generally, the shows are organized into segments, each separated by a pause for advertisements; however, in public or non-commercial radio, music is sometimes played in place of commercials to separate the program segments. Variations of talk radio include conservative talk, hot talk, liberal talk (increasingly known as progressive talk) and sports talk.

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6. Radio features and documentaries

Radio documentary is a spoken word radio format devoted to non-fiction narrative. It is broadcast on radio as well as distributed through media such as tape, CD, and podcast. A radio documentary covers a topic in depth through one or more perspectives, often featuring interviews, commentary, and sound pictures. A feature can include original music

compositions and creative sound design or can resemble traditional journalistic radio reporting, but cover an issue in greater depth.

7. Radio play

Radio drama (or **audio drama**, **audio play**, **radio play**, **radio theater**, or **audio theater**) is a dramatized, purely acoustic performance. With no visual component, radio drama depends on dialogue, music and sound effects to help the listener imagine the characters and story: "It is auditory in the physical dimension but equally powerful as a visual force in the psychological dimension."

Radio drama achieved widespread popularity within a decade of its initial development in the 1920s. By the 1940s, it was a leading international popular entertainment. With the advent of television in the 1950s, however, radio drama lost some of its popularity, and in some countries has never regained large audiences. However, recordings of OTR (old-time radio) survive today in the audio archives of collectors and museums, as well as several online sites such as Internet Archive.

As of 2011, radio drama has a minimal presence on terrestrial radio in the United States. Much of American radio drama is restricted to rebroadcasts or podcasts of programs from previous decades. However, other nations still have thriving traditions of radio drama. In the United Kingdom, for example, the BBC produces and broadcasts hundreds of new radio plays each year on Radio 3, Radio 4, and Radio 4 Extra. Like the USA, Australia ABC has abandoned broadcasting drama but in New Zealand RNZ continues to promote and broadcast a variety of drama over its airwaves. Podcasting has also offered the means of creating new radio dramas, in addition to the distribution of vintage programs.

Thanks to advances in digital recording and Internet distribution, radio drama was experiencing a revival in 2010.

The terms "audio drama" or "audio theatre" are sometimes used synonymously with "radio drama"; however, audio drama or audio theatre may not necessarily be intended specifically for broadcast on radio. Audio drama can also be found on CDs, cassette tapes, podcasts, webcasts as well as broadcast radio.

8. Radio running commentaries

a spoken description of an event that is given while it is happening, especially on the radio or television *a sports commentary Our reporters will give **a running commentary*** (= a continuous one) *on the election results as they are announced. He kept up **a running commentary** on everyone who came in or went out.*

9. Radio ads/commercials

In the United States, commercial radio stations make most of their revenue by selling airtime to be used for running **radio advertisements**. These advertisements are the result of a business or a service providing a valuable consideration, usually money, in exchange for the station airing their commercial or mentioning them on air. The most common advertisements are "spot commercials", which normally last for no more than one minute, and longer programs, commonly running up to one hour, known as "informercials".

The United States Federal Communications Commission (FCC), established under the Communications Act of 1934, regulates commercial broadcasting, and the laws regarding radio advertisements remain relatively unchanged from the Radio Act of 1927.In 2015, radio accounted for 7.8% of total U.S. media expenditures.

There is a broad range of choices for type and length of radio commercials. With changes in the radio industry and better production technologies, the mode of commercial presentation has changed, and commercial advertisements can take on a wide range of forms. The two primary types of radio ads are "live reads" and produced spots.

Cousin to the ad-libbed commercial, live read refers to when a DJ reads an advertiser's spot on the air, delivered from a script, fact sheet or personal knowledge. It can also refer to when the DJ "endorses" the advertiser's goods or services. The Radio Advertising Bureau (RAB) defines an endorsement as: "where the station or personality "endorses" the advertiser's product or service, usually "live" on-air.

Produced spots appear to be more common. A spot is 'produced' if the radio station or an advertising agency record it for the client. Produced commercial formats include: straight read with sound effects or background music, dialogue, monologue (where the voice talent portrays a character, as opposed to an announcer), jingles, and combinations of these. Studies show that the quality of the commercials is as important to listeners, generally, as the number of ads they hear.

10. Phone ins and radio bridges

In broadcasting, a **phone-in** or **call-in** is a programme format in which viewers or listeners are invited to air their live comments by telephone, usually in respect of a specific topic selected for discussion on the day of the broadcast. On radio (especially talk radio), it is common for an entire programme to be dedicated to a phone-in session. On television, phone ins are often part of a wider discussion programme: a current example in the UK is *The Wright Stuff*.

The concept dates to the early radio era: a December 1924 BBC 5NG Nottingham phone-in programme is described in a 1925 Radio Times article: "listeners ... enjoyed the novelty of hearing their own voices taking part". A prior attempted phone-in to a BBC 2LO London programme "led to such a rush on the telephones that the Post Office had to intervene".[1]

Speech based Talk Radio UK was launched in 1995, with much of its programming featuring phone-ins. It also introduced the notion of the shock jock to the UK, with presenters like Caesar the Geezer and Tommy Boyd constructing heated discussions.

Ian Hutchby has researched power relations in phone ins, looking at arguments and confrontations. Using conversation analysis, he describes how the host retains power through devices such as "The Second Position" — the concept of going second in a discussion, giving the host time to formulate a response.

Similarly, the last word is always the broadcast word. The public can choose to end the conversation, but they are doing so by withdrawing from the interactional arena (Hutchby, 1996: 94-5; Talbot et al.).

In 2007, the BBC suspended all phone-in competitions (but not voting) due to an internal inquiry into corruption in the production of these games in shows such as charity telethons after a nationwide inquiry into the whole process leading to the cancellation of *ITV Play*.

In Ireland Liveline is a popular afternoon phone in show broadcast by RTÉ Radio 1 that is hosted by Joe Duffy. The phone in program usually focuses on consumer issues, current affairs and complaints from members of the public regarding various issues. The program and its presenter are frequently lampooned by numerous Irish comedians, one being David McSavage, who play on the popular perception that the program is merely an outlet for the angst of serial complainers and housewives while providing entertainment for those who revel in listening to despair and tales of misery delivered the callers. A quality of the show that is frequently satirized is Duffy's seemingly exasperated expressions of despair upon hearing of the plight of a caller.

11. Music on radio

Music radio is a radio format in which music is the main broadcast content. After television replaced old time radio's dramatic content, music formats became dominant in many countries. Radio drama and comedy continue, often on public radio.

Music drives radio technology, including wide-band FM, modern digital radio systems such as Digital Radio Mondiale, and even the rise of internet radio and music streaming services (such as Pandora and Spotify).

12. Radio News-Radio News defined

News broadcasting is the medium of broadcasting of various news events and other information via television, radio or internet in the field of broadcast journalism. The content is usually either produced locally in a radio studio or television studio newsroom, or by a broadcast network. It may also include additional material such as sports coverage, weather forecasts, traffic reports, commentary and other material that the broadcaster feels is relevant to their audience.

13. Main characteristics of Radio News as against news in other media

Radio news is similar to television news, but is transmitted through the medium of the radio instead. It is based on the audio aspect rather than the visual aspect. Sound bites are captured through various reporters (generally through audio capture devices such as tape recorders) and played back through the radio. News updates occur more often on radio than on television – usually about once or twice an hour.

Unit-III Writing for the Ear
1. Introduction

Writing words to be heard by the ear is quite different from words to be read by the eye. The layout of sentences, their order and construction has to be thought through in order to be totally clear and unambiguous at their first hearing. The listener does not automatically have the possibility of re-hearing something. It must make sense first time, and this places a special responsibility on the radio writer. So whether we are writing a 15-minute talk, a one-minute voice piece, or a cue to a recorded interview, the basic 'rules' of radio writing – and the pitfalls – need to be simply stated.

2. Characteristics of spoken word

a) It should be simply worded without any difficult or unfamiliar words.
b) The sentences should be short and simple and not complex.
c) There should be only one idea in a sentence and not many ideas.
d) Though there are thousands of listeners, what is written should be meant for just one listener. At the listening end, there are generally only one or two persons and not a crowd. So it should be speaking to one person.
e) The words chosen should denote the exact meaning and not be vague or abstract
f) The words should make pictures in the minds of the listeners.
g) Abbreviations or short forms should be avoided. If an abbreviation is used, then its full form should be given.
h) If the script consists of big numbers it can be rounded off to the nearest whole number.
 i) While referring to more than one person, avoid using 'he' or 'she'. It can confuse the listeners.

3. Knowing your audience

First of all, when it comes to radio, you listen to a person who is not seen. z The person speaks from a script written down earlier. z You feel that the person is talking to you. MASS COMMUNICATION MODULE - 3 Radio Notes 155 Radio Programme Production z The person sounds friendly and you have no problem in understanding what is being said. z You can call the language or the words used in a radio script as the spoken word as against the written word or the printed word used in the print media. z Unlike the printed word which is written for the eye, the spoken word is written for the ear.

4. Developing your style

Writing for radio is different than writing for print. You're writing for the ear, not the eye. Listeners have to get it the first time around- they can't go back and hear it again (unlike re-reading a sentence in a magazine). And while a reader may get up and come back to an article, a radio listener who gets up may not come back. So you want to grab their attention and hold onto it for as long as possible. Writing feature stories like the ones aired on B-Side is also different than writing news copy. You can loosen up a little. You can be more literary, more creative, more personal. This handout is a quick guide to writing a script for a feature radio story.

5. Writing for different formats and messages 6. Dramatising messages

Getting Started: Logging Tape
After you've finished your reporting, it's time to log your tape. This means listening to everything you've recorded and writing it up. You should transcribe quotes, note who's saying what, time how long the tracks are, and (if you're using a minidisc) note the track numbers. Highlight or mark tracks you know you want to come back to. You don't have to log the tracks you know you won't use.Example

Choosing Your Acts
After you've logged your tape, you should select the tracks you want to use (tracks are also called cuts, soundbites, or actualities). Cuts generally shouldn't be longer than 30 seconds- you only have a few minutes and besides, most radio listeners have short attention spans. (If you have a great long cut, you can break it up with your narration or edit it down). Don't just choose cuts purely based on what's said- also consider how it's said. Think about how your cuts will fit into your story structure- do they describe something, tell a story, make you laugh, make you scratch your head? Your actualities should advance the story and make it interesting.

Starting to Write
As you start writing your script, you probably already have a good idea what your story's going to sound like. You've listened to all the clips and ambiance, maybe selected some

music. You may have talked about the story with a friend or editor. Basically, you already have all the elements floating around in your head. Start writing your script by laying out all your cuts in the order you think you're going to use them. Then start writing your narration around them.

Anchor Intros

The place to start is usually the "anchor intro"- this is what the announcer/host will say to introduce your story. An anchor intro quickly sets up your story and puts it in context, without giving away too much. It should also introduce you, the reporter/producer.

Telling a Story

As you write your narration, try to tell a story with a beginning, middle, and end. Draw listeners into the story by setting a scene, raising a question, playing a weird noise, or introducing a character. Use narrative elements like foreshadowing, suspense, and scene changes to move the story along.

Mix Things Up

Use tracks of varying length. A series of 20-second acts interspersed with 10-second tracks will get pretty monotonous. And when you wrap up your story, don't end with an actuality or just a sign off. You should get the last word, even if it's just a short sentence.

A few aesthetic considerations to keep in mind as you write your script:

Be conversational. Your narration should sound as natural as possible, like you're telling a story to a friend. This is not the same as trying to imitate spontaneous speech. Instead, this means writing in a style that sounds as relaxed as possible. Use phrases and words you normally use. When you read your narration aloud, do you sound like yourself?

Be visual. Give your listeners a chance to imagine the people, places and things in your story. Create a sense of scene; describe people; include interesting sounds. Avoid a story that's just a series of talking heads or facts.

Be concise. Long sentences loaded with ten-cent words and relative clauses usually don't work too well in radio (but there are exceptions). Mix up your sentence structure. It's surprisingly easy to fill 3 or 4 minutes of airtime- so don't overwrite.

Be energetic. Use the active voice. Use punchy verbs and contractions. Mind your tenses – don't switch back and forth between past and present. Most radio stories are done in present tense. Some exceptions include commentaries, and news stories about past events.

Be experimental. For variety, stick in a tape-to-tape cut (one actuality leading straight into another without narration in between). Mix acts and tracks. For example, if someone is droning on and on, you can play them under your narration- this will convey a sense of them rambling. Even the most straightforward story can have an unusual or memorable element in it.

Be thoughtful. Try to go beyond just presenting the facts. Let your listeners know why your story matters. Is there a lesson to be learned, something to be taken away? You don't have to get too heavy or cerebral- just take it a step or two beyond pure description.

Writing for the Ear

The way you listen to speech is different than the way you read. A few tricks to make sure your listeners stay tuned in:

Keep ideas intact. Don't break up subjects and verbs. Compare these three sentences:

– Nancy Smith, who is the founder and CEO of the Acme Corporation, says the widget market is booming.

– Acme Corporation founder and CEO Nancy Smith says the widget market is booming.

– Nancy Smith is the founder and CEO of the Acme Corporation. She says the widget market is booming.

Nancy Smith gets lost in the first one. The next two sentences express the same idea without losing track of who's being talked about or who she is.

Write transitions in and out of your actualities. You don't have to be obvious, but acts shouldn't seem abrupt or forced. If you give someone's name three sentences before you play their clip, you should mention their name again before they start talking. This will remind listeners who's about to talk.

Likewise, **don't follow an actuality from one person by naming another person.** This can make it sound like Person #2 just said Person #1's actuality. o You don't have to write in complete sentences. You can also break up sentences for emphasis.

Acts and Tracks

Radio scripts generally follow a common format. Here are a few guidelines:

Label each actuality "ACT". Note who's talking and how long it is. Actualities are usually distinguished from narration with boldface, italics, capitalization, indentation, or some combination of these.

Label each track of your narration "TRX" or "TRK". Note how long it takes for you to read it. o Use parentheses or brackets to note when ambience (labeled "AMB" or "AMBI") or music is playing. The more specifics about how this sound will be used, the better. This will help your editor and will remind you what to do when you're mixing the final version.

Give the phonetic spelling of hard-to-pronounce words and names in parentheses after the name. Write out numbers and abbreviations – it will slow your read down if you have to figure out how to say 1,459 when you could read "one thousand, four hundred and fifty nine" Not that you should use such a specific number in your story-use approximate numbers.

Note the estimated length of the entire story (without the anchor intro) at the top of the script. A rough rule of thumb to use: one page of single-spaced script usually corresponds to a minute and a half to two minutes of produced tape.

Unit-IV Radio Production
1. Introduction

If you listen to radio at least once in a while, you may remember a few programmes. You remember them because you liked them. You liked them because they were interesting. You do not remember a majority of programmes because what is heard is fast forgotten. We have already discussed about this feature of radio in the lesson on 'characteristics of radio'. To make a programme interesting, it has to be produced well. Radio production is a very vast subject. Due to constant change in technology, the techniques of radio production keep changing. But the basics remain the same. You may have the best of ideas, the best of scripts and the best of voices; but if the programme is not produced properly it will not be interesting to listen to.

2. Elements of radio productions

(i) Studio : In the previous lesson, you have learnt that the radio studio is a room where radio programmes are recorded. For producing a radio programme, you need a 'sound proof' studio where human voice can be recorded or broadcast in the best manner.

(ii) Microphones: For our voice to be recorded in a studio, we use a microphone. You might have used or at least seen microphones. They amplify or in other words ,increase the volume of your voice. When you speak before a microphone, you don't have to shout. You speak normally and it will be made louder if you use a loudspeaker to listen to. When we think of radio, the microphone is the most important element using which you present your programme. There are basically three types of microphones and they are known by their directivity. As you go through the following text, you will understand the term 'directivity'.
(a) Uni-directional microphone : As the name suggests, this microphone picks up sound from one direction. As you speak in front of it, your voice is picked up. If you speak from the other side of the microphone, your voice will not be picked up properly. In a radio studio, the announcers, presenters and newsreaders use this type of a microphone. A microphone is very sensitive and you need to use it carefully. You should be at the right distance from it when you speak. Otherwise, your voice will not sound good. Even if you turn a paper or breathe heavily, the microphone will pick up that sound and your programme or your voice will be affected.

(b) Bi-directional microphone:- Here again as the name (bi) suggests, the voice or sound is picked up from two directions. If you are recording an interview in a radio studio, you may use this type of a microphone.

(c) Omni-directional microphone: You may be familiar with the word omni. We say god is omnipresent, which means 'present everywhere'. In the case of an omni-directional microphone, it picks up sound from all directions. This type of microphone is used when a number of voices are used in a single programme

like a radio discussion or a radio drama. There are many other types of microphones which come in different sizes and lengths. If you watch television programmes, you may find a small microphone clipped on the collar. This is called a lapel microphone which is actually a uni-directional microphone. These microphones are not normally used in radio. Then there are long microphones called gun microphones used in sports production. These microphones are often omni directional ones. There are also cordless microphones. You might have seen them being used in stage shows. They do not have any cables or wires attached to them. They have a small transmitter in them which can send the sounds to an amplifier

(iii) Sound effects : Sound effects in a radio programme give meaning and sense of location. It adds realism to a programme and helps a listener to use imagination.

Think of a crowded market or temple. If you are creating that scene in a radio programme, you do not have to go to a crowded market or temple to record. Well, you can record those sounds and use them. But in most cases, you use sound effects which are already recorded. Sound effects can be used in two ways:

(a) spot effects or effects that are created as we speak and

(b) recorded sound effects. If you are recording a radio programme in which someone knocks at the door, you can make a knocking sound either on a door or a wooden partition. Or you want to show that someone is pouring water from a bottle into a glass; here again you can use the actual sounds produced on the spot. But if you want a lion roaring or a dog barking, you probably cannot bring a lion or a dog to the studios! Here we use recorded sounds which are kept on tapes or discs. Almost all sounds are available on CDs which you can try and use. There are also certain types of computer software available for this. You can also create sound effects. You can use two coconut shells to produce the sound effects of the sounds of horses' hooves. Take a piece of cellophine paper or aluminum wrapper and crush them in front of a microphone. Record the sound and hear. It will sound as if fire is raging. You can think and create many such sound effects. However, there is a word of caution. If you record an actual door opening, you many not get the real feeling of a door opening when you record it. What matters is what it sounds like and not what it is.

(iv) Music : Music is the soul of radio. It is used in different ways on radio as already discussed in the earlier lesson. Film songs and classical music programmes are independent programmes on radio. Music is also used as signature tunes or theme music of various radio programmes. Let us see what music does to any programme.

a. Music adds colour and life to any spoken word programme.

b. Music can break monotony.

c. Music is used to give the desired effect of happy or unhappy situations, fear or joy.

d. Music can suggest scenes and locations. For example, you have to create a bright early morning situation. This can be done by playing a pleasing note on the flute along with the sound of chirping birds.

(v) Artificial echo:- If you enter an empty building or fort and shout, your voice will come back to you. This is called on echo. An echo is used in radio programmes. This is a technical input.

(vi) Filter or distort: If you listen to someone speaking to you on phone, the voice would not sound normal. This sort of effect called distort is produced using technology. Some times distort is used along with echo. Think of someone speaking from a mine 100 feet below the earth. To make it realisitic, distort and echo are used. (vii)Human voice: The main stay in any radio programme is the human voice. Think of the voice of an announcer or newsreader on radio. You often find them very pleasant and nice to listen to. That is because of the quality of their voice and the proper use of it. There are two aspects of the use of human voice in radio production. Firstly, there has to be a well written script to be spoken and then someone has to speak or read it before a microphone in a studio

3. Acoustics

Acoustics is the branch of physics that deals with the study of all mechanical wavesin gases, liquids, and solids including topics such as vibration, sound, ultrasound and infrasound. A scientist who works in the field of acoustics is an **acoustician** while someone working in the field of acoustics technology may be called anacoustical engineer. The application of acoustics is present in almost all aspects of modern society with the most obvious being the audio and noise control industries.

Hearing is one of the most crucial means of survival in the animal world, and speech is one of the most distinctive characteristics of human development and culture. Accordingly, the science of acoustics spreads across many facets of human society—music, medicine, architecture, industrial production, warfare and more. Likewise, animal species such as songbirds and frogs use sound and hearing as a key element of mating rituals or marking territories. Art, craft, science and technology have provoked one another to advance the whole, as in many other fields of knowledge. Robert Bruce Lindsay's 'Wheel of Acoustics' is a well accepted overview of the various fields in acoustics The word "acoustic" is derived from the Greek word ἀκουστικός (akoustikos), meaning "of or for hearing, ready to hear and that from ἀκουστός (akoustos), "heard, audible", which in turn derives from the verb ἀκούω (akouo), "I hear".

The Latin synonym is "sonic", after which the term **sonics** used to be a synonym for acoustics and later a branch of acoustics.Frequencies above and below the audible range are called "ultrasonic" and "infrasonic", respectively.

4. Perspective

Perspectivity, the formation of an image in a picture plane of a scene viewed from a fixed point, and its modelling in geometry

5. Sound effects

Sound effects (or **audio effects**) are artificially created or enhanced sounds, or sound processes used to emphasize artistic or other content of films, television shows, live performance, animation, video games, music, or other media. In motion picture and television production, a sound effect is a sound recorded and presented to make a specific storytelling or creative point *without* the use of dialogue or music. The term often refers to a process applied to a recording, without necessarily referring to the recording itself. In professional motion picture and television production, dialogue, music, and sound effects recordings are treated as separate elements. Dialogue and music recordings are never referred to as sound effects, even though the processes applied to such as reverberation or flanging effects, often are called "sound effects

6. Music

Music is an art form and cultural activity whose medium is sound organized in time. The common elements of music are pitch (which governs melody and harmony), rhythm (and its associated concepts tempo, meter, and articulation),dynamics (loudness and softness), and the sonic qualities of timbre and texture(which are sometimes termed the "color" of a musical sound). Different styles or types of music may emphasize, de-emphasize or omit some of these elements. Music is performed with a vast range of instruments and vocal techniques ranging from singing to rapping; there are solely instrumental pieces, solely vocal pieces (such as songs without instrumental accompaniment) and pieces that combine singing and instruments. The word derives from Greek μουσική (*mousike*; "art of the Muses").[1] See glossary of musical terminology.

In its most general form, the activities describing music as an art form or cultural activity include the creation of works of music (songs, tunes, symphonies, and so on), the criticism of music, the study of the history of music, and the aesthetic examination of music. Ancient Greek and Indian philosophers defined music as tones ordered horizontally as melodies and vertically as harmonies. Common sayings such as "the harmony of the spheres" and "it is music to my ears" point to the notion that music is often ordered and pleasant to listen to. However, 20th-century composer John Cage thought that any sound can be music, saying, for example, "There is no noise, only sound.

7. Distort/Filter

Distortion is the alteration of the original shape (or other characteristic) of something. In communications and electronics it means the alteration of the waveform of an information-bearing signal, such as an audio signal representing sound or avideo signal representing images, in an electronic device or communication channel. Distortion is usually unwanted, and so engineers strive to eliminate or minimize it. In some situations, however, distortion may be desirable. For example, in FM broadcasting and noise reduction systems like the Dolby system, an audio signal is deliberately distorted in ways that emphasize aspects of the signal that are subject to electrical noise, then is symmetrically "undistorted" after passing through a noisy communication channel, reducing the noise in the signal. Distortion is also used as a musical effect, particularly with electric guitars.

The addition of noise or other outside signals (hum, interference) is not considered distortion, though the effects ofquantization distortion are sometimes included in noise. A quality measure that explicitly reflects both the noise and the distortion is the signal-to-noise-and-distortion (SINAD) ratio.

An RF Filter, or radio frequency filter, is an electronic filter which is designed to operate on signals in medium to extremely high frequencies. These ranges are used in radio, television and wireless communications. Therefore most RF devices include some kind of filtering on the signals transmitted or received. RF filters enable the required frequencies to be passed through a circuit, while rejecting the frequencies that are not needed. These filters are often used for duplexers and diplexers in order to combine or separate multiple frequency bands. An ideal filter, whether low pass, high pass, or band pass will have a minimal amount of loss within the pass band.

Types of RF Filters

There are several different kinds of RF filters at Future Electronics. We stock many of the most common types categorized by several parameters including center frequency, insertion loss, 3 dB bandwidth, attenuation at maximum frequency, attenuation at minimum frequency, operating temperature range, impedance and packaging type. Our parametric filters will allow you to refine your search results according to the required specifications.

RF Filters from Future Electronics

Future Electronics has a wide range of RF Filters from several manufacturers. Once you decide if you need a Band Pass Filter, Ceramic Filter, Electromechanical Filter, Low Pass Filter, Saw Filter or Duplexers, you will be able to choose from their technical attributes and your search results will be

narrowed to match your specific RF filter application needs. You will then be able to find the right RF filter for your RF filter circuit, duplexer, lowpass filter or programmable bandpass filter.

We deal with several manufacturers such as Abracon, CTS, Epcos, Murata, New Japan Radio, RF Monolithics, TDK and NXP, among others. You can easily refine your RF filter product search results by clicking your preferred RF filter brand from the list of manufacturers below.

Applications for RF Filters:

Bandpass filters can be used in all kinds of instrumentation including seismology, sonar and medical applications such as ECGs and EEGs. They are also used in optics, such as lasers. Low pass filters can be used for audio applications. SAW filters are increasingly being used where narrow bandwidth and low loss are required. Recent advances with this type of filter make it especially attractive for these applications.

Varicap diodes (or varactors) are often used as voltage-controlled capacitors. They are found in parametric amplifiers & oscillators and voltage-controlled oscillators as part of PLLs and frequency synthesizers. Varactors are found in TV tuners in order to electronically tune the receiver to different stations.

8. Different types of microphones

Shotgun Microphone

These mics are great for pinpointing the exact audio you want without the problem of audio interference from surrounding ambient noise. The mic can be manually held using a **boom pole** or attached to a **boom stand**.

Handheld microphones

These are typically what you see local TV reporters using. They are useful for "run and gun" type of situations.

Lapel Microphones

These are tiny little mics, also referred to as lavalier microphones, that clip to someone's shirt or tie and are usually used in a sit-down interview situation. These are great for capturing consistent audio levels as the microphone does not move around like a handheld mic.

9. Recording

PRODUCING RADIO NEWS

If you are producing radio news for BBC News School Report, at some point you are going to have to use recording and editing equipment and software.

If you are not technically-minded or familiar with the equipment, then finding your way around this software and hardware can be quite daunting.

It helps if everyone involved in the project has as much hands-on experience as possible using the equipment before News Day itself.

RECORDING DEVICES

At the Verbal Arts Centre, we have found digital audio recorders called Marantz PMD 660 recorders are really easy-to-use. They are brick-sized devices with simple "rec", "stop" and "play" buttons.

Each time the "rec" button is pressed, the recorder automatically records onto a new track. It is impossible, as far as I know, to record over content on the machine.

The quality of the recorded audio is very good, and, although this model comes with an internal microphone, it is possible to plug in an external microphone as it has a mic input (XLR), which allows for even better quality audio.

It is also a very simple process to transfer audio from the recorder to a PC or Mac using a USB connection.

You will also need to get a CF (compact flash) card to record onto. Machines may come with a 256MB card but I would recommend that you get a 1GB card - approximately £25 - as that will store up to three hours of audio in wav format and 36 hours in MP3 format (more about formats later).

All in all, the PMD 660 is a user-friendly piece of equipment. The bad news is that this equipment does not come cheap and will set you back about £400.

If it is a little pricey, there's a smaller member of the family which is a bit easier on the pocket. The PMD 620 costs around £280, and still has a mic input (mini jack) for external microphones. The recorded audio quality is still very good on this model.

Even cheaper is the Zoom H2 Handy 2 track recorder. Retailing at approximately £150, it is small, easy-to-use and produces good quality audio. It comes with a 512MB SD memory card, which should be big enough for recording purposes.

I recommend that the cards are cleared regularly to ensure that users have enough space to record their interviews. Try and instil good file management and organisation practices among students. Inform them that cards will be regularly cleared and that it is their individual responsibility to transfer their audio to the PC or Mac for storage as soon as possible after the interview has taken place.

RECORDING FORMAT AND RECORDER SETTINGS

I mentioned recording formats earlier on. When you record audio, you will mostly be interested in recording either PCM files (I'm going to call these wav files from now on) or MP3 files.

Wav files are best for broadcasting on radio (for example, if you're hooking up with your local BBC radio station).

MP3 files are great if you are podcasting or streaming on the internet.

MP3 files are much smaller than wav files (about one-tenth of the size) so they take up much less space than wav files on your computer.

The downside is they are smaller because they are compressed audio files and, as a result, the quality is slightly compromised.

Don't worry though, as MP3 is the standard format for the internet so this is acceptable.

You can set up your recording device to record in either format quite easily by following the instructions in your user manual. Change the settings to the following:

• PCM (wav) files - 16 bit linear; 44.1 kHz sampling frequency; you can choose to record in either mono or stereo (please note that you only need to record in mono if you are recording voices)

• MP3 files - 128kbps bitrate; 44.1 kHz sampling frequency

RECORDING LEVELS

All of the recorders mentioned above allow the user to monitor recording levels during recording. I cannot stress enough how important it is to check your levels throughout the entire recording!

As a rule of thumb, audio should be recorded as close to 0db as possible without going over 0db.

If it goes over and into the red (usually a red light appears on the display or somewhere on the recorder when this happens) then the audio will be distorted.

This means that it will sound fuzzy and unpleasant which means that people will be less inclined to want to stay tuned to your programme. And you don't want that to happen!

So, I normally advise students to record at around -6db as this allows interviewers and interviewees to speak louder on occasion (eg, at the start of an answer) without the audio distorting.

If the audio is recorded at too low a level, then it will have to be boosted however - and doing this will also boost any background noise and will sound unpleasant.

EDITING SOFTWARE

When it comes to editing, schools may be on a limited budget. If you have no money to spend, then allow me to introduce you to Audacity, which is free and works on both PCs and Macs.

Audacity is quite straightforward to use too - just spend a bit of time getting to know it. Play about with it and familiarise yourself with the interface.

With a bit of practice, you'll be able to edit your radio news stories with ease and export them. When you have finished editing a file, just export it as either a wav or an MP3 file (choose 'File/Export' from the menu at the top of the software).

However, if you are fortunate enough to have a bit of cash at your disposal, then I would recommend Adobe Audition. You can pick up an educational version for about £140 online.

It has a very user-friendly interface and allows the user to edit and multi-track quickly and easily.

Other audio editing software includes Cubase, Logic, Protools, Cakewalk pyro Audio Creator and Soundtrack. There are loads of them on the market to choose from.

TIPS FOR EDITING

When students transfer files to the computer, ask them to rename each file with a name that will make it easily recognisable (eg, principal_canteen.mp3). Students will eventually have a lot of audio files to work on and it will make things easier if they name files as soon as they can.

Ask students to make a back-up copy of their audio files and then edit the original. Although doing so takes up extra storage space, it is easier than having to re-record interviews if something goes wrong during the editing phase. The back-up files can be deleted once the audio has been successfully edited.

Remind students to save work regularly as computers have been known to crash.

10. Editing

In music, a **radio edit** is a modification, typically truncated, intended to make a song more suitable for airplay, whether it be adjusted for length, profanity, subject matter, instrumentation, or form. Radio edits may also be used for commercial single versions, which may be denoted as the *7″ version*. However, not all "radio edit" tracks are played on radio.

Radio edits often shorten a long song in order to make it more commercially viable for radio stations. The normal length for songs played on the radio is 3 to 4 minutes. Occasionally, the song will simply fade out earlier, common on tracks with long instrumental endings. For instance, the radio edit of 'Heroes' by David Bowie fades in shortly before the beginning of the third verse and fades out shortly before the vocal vamping at the end of the song. Another example is B.o.B's song, "Nothin' On You" featuring Bruno Mars, whose radio edit skips the first 5 seconds & starts with the 6th second in which Bruno Mars starts singing the first chorus. The second half of the first chorus is sometimes skipped, along with the last 24 seconds which is the normal fade-out part in which B.o.B says, "Yeah, and that's just how we do it/And I'm a let this ride/B.o.B and Bruno Mars", and the radio edit ends with the fourth and last chorus with an earlier fade-out. A 3rd example would be the song, "The Man" by Aloe Blacc, in which the radio edit skips the "I'm the man/Go ahead & tell everybody/What I'm saying ya all" part & the first 10 seconds. Also, the 3rd chorus of the song is shortened. However, many radio edits will also edit out verses, bridges, and interludes, such as the original single edit of "Piano Man" by Billy Joel which substitutes the end of the third verse for the ending of the second verse. Another example for this case is Justin Timberlake's "Mirrors", where the radio edit cuts the entire "You are the love of my life" part. Another example would be Juvenile's "Back That Thang Up" where Lil' Wayne's outro is faded out in the "wobble de wop" part.

Radio edits often come with any necessary censorship done to conform to decency standards imposed by government agencies, such as the Federal Communications Commission in the United States, the Canadian Radio-television and Telecommunications Commission in Canada, the Kapisanan ng mga Brodkaster ng Pilipinas in the Philippines, the Australian Communications and Media Authority in Australia, and Ofcomin the United Kingdom. The offending words may be silenced, reversed, distorted, or replaced by a tone or sound effect. The edits may come from the record label itself, broadcasters at the corporate level before the song is sent for airplay to their stations, or in rarer cases, at a radio station itself depending on local standards.