



SNS COLLEGE OF ENGINEERING

(Autonomous)

DEPARTMENT OF MECHANICAL ENGINEERING



CONSUMER ELECTRONICS

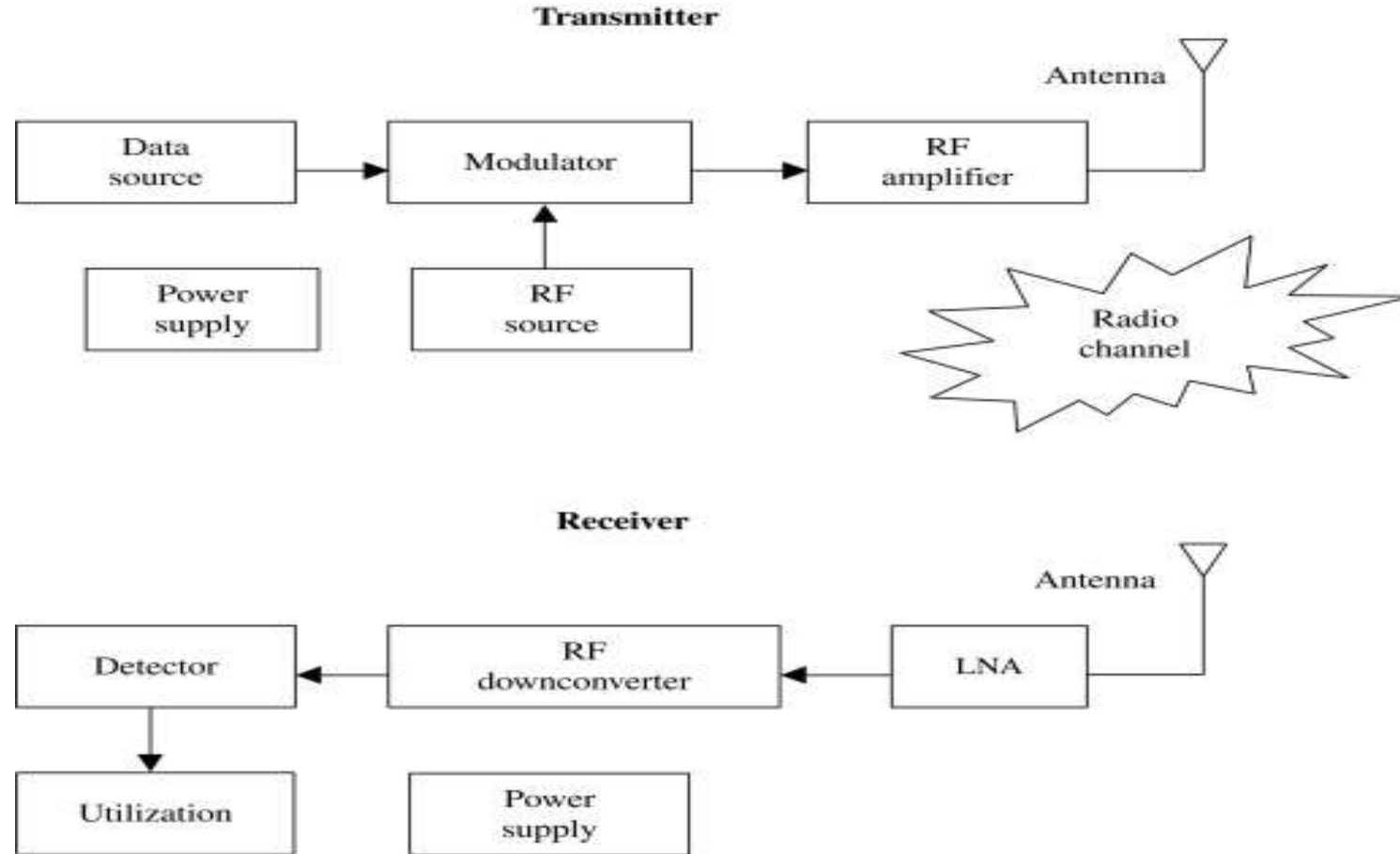


Guess Today's Topic????





WIRELESS MICROPHONE





WIRELESS MICROPHONE



A **wireless microphone**, or **cordless microphone**, is a [microphone](#) without a physical cable connecting it directly to the sound recording or amplifying equipment with which it is associated.

Also known as a **radio microphone**, it has a small, battery-powered [radio transmitter](#) in the microphone body, which transmits the audio signal from the microphone by [radio waves](#) to a nearby receiver unit, which recovers the audio.

The other audio equipment is connected to the receiver unit by cable. In one type the transmitter is contained within the handheld microphone body.





WIRELESS MICROPHONE



In another type the transmitter is contained within a separate unit called a "bodypack", usually clipped to the user's belt or concealed under their clothes.

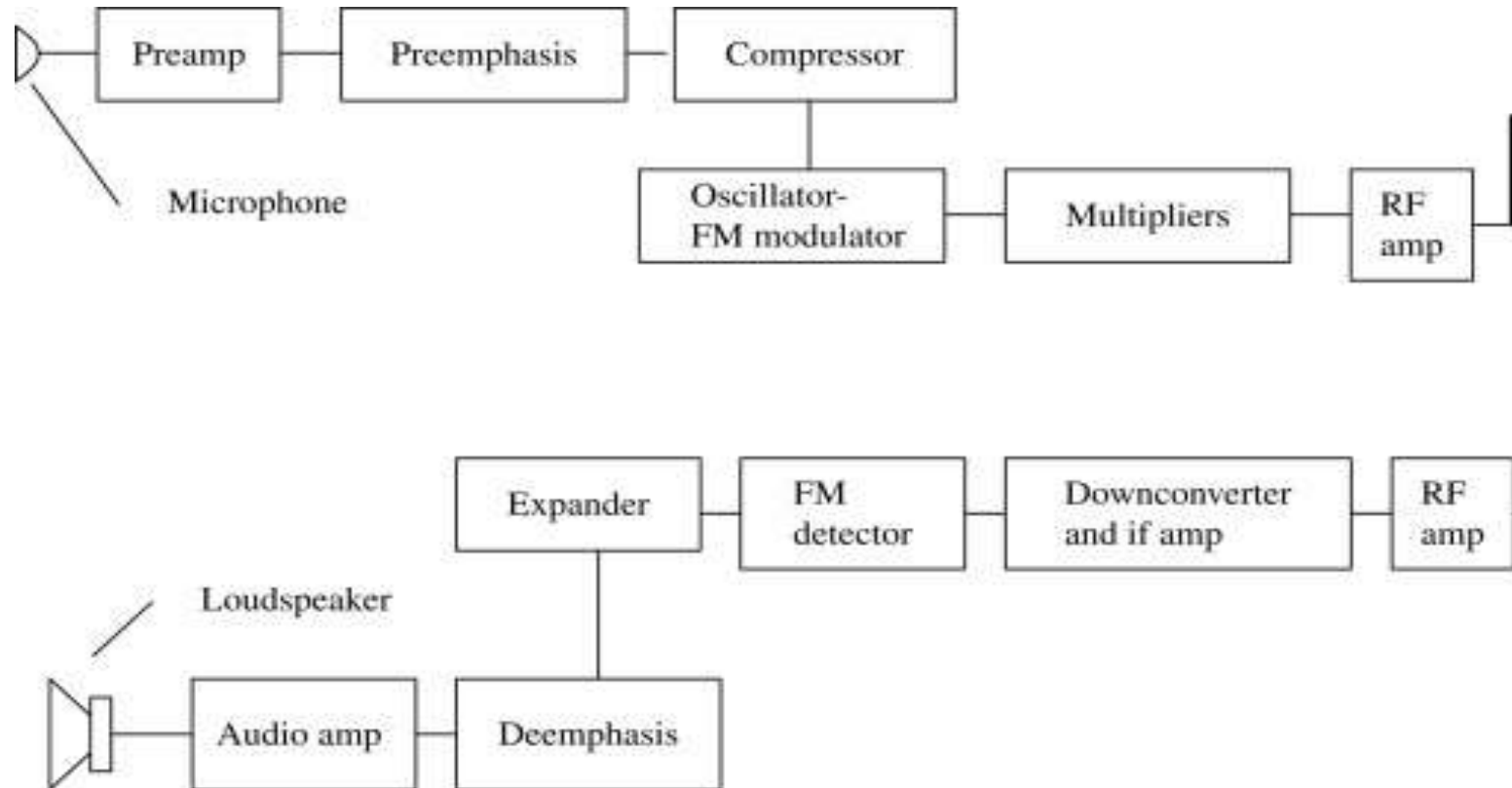
The bodypack is connected by wire to a "lavalier microphone" or "lav" (a small microphone clipped to the user's lapel), a headset or ear set microphone, or another wired microphone. Most bodypack designs also support a wired instrument connection (e.g., to a guitar).

Wireless microphones are widely used in the [entertainment industry](#), [television broadcasting](#), and [public speaking](#) to allow public speakers, interviewers, performers, and entertainers to move about freely while using a microphone without requiring a cable attached to the microphone.





WIRELESS MICROPHONE DIAGRAM





USE OF WIRELESS MICROPHONE



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WIRELESS MICROPHONE

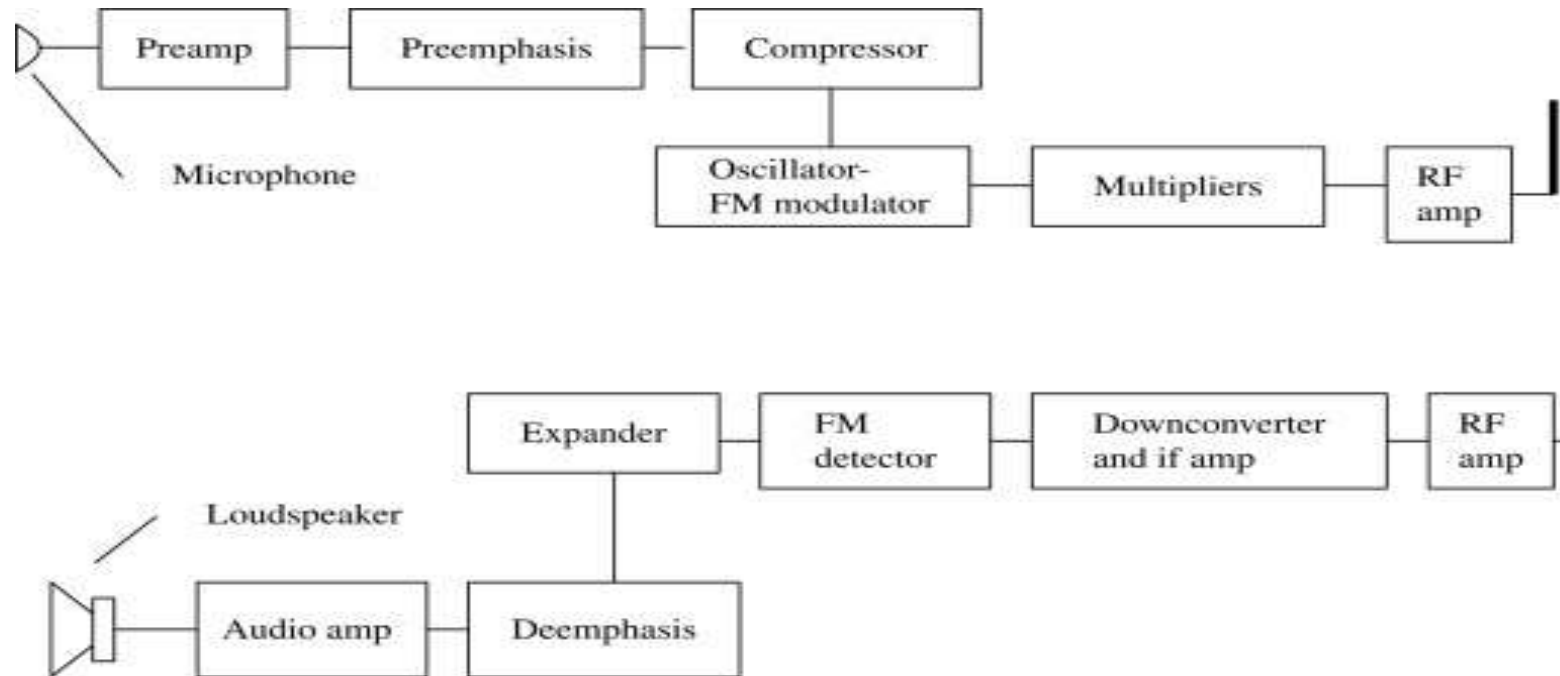


Wireless microphones usually use the [VHF](#) or [UHF](#) frequency bands since they allow the transmitter to use a small unobtrusive antenna. Cheap units use a fixed frequency but most units allow a choice of several frequency channels, in case of [interference](#) on a channel or to allow the use of multiple microphones at the same time. [FM modulation](#) is usually used, although some models use [digital modulation](#) to prevent unauthorized reception by scanner radio receivers; these operate in the 900 MHz, 2.4 GHz or 6 GHz [ISM bands](#). Some models use [antenna diversity](#) (two antennas) to prevent [nulls](#) from interrupting transmission as the performer moves around. A few low cost (or specialist) models use [infrared](#) light, although these require a direct line of sight between microphone and receiver.





WIRELESS MICROPHONE





DISADVANTAGE



- Sometimes limited range (a wired balanced XLR [microphone](#) can run up to 300 ft or 100 meters). Some wireless systems have a shorter range, while more expensive models can exceed that distance.
- Possible interference with or, more often, from other radio equipment or other radio microphones, though models with many frequency-synthesized switch-selectable channels are now plentiful and cost effective.
- Operation time is limited relative to battery life; it is shorter than a normal condenser microphone due to greater drain on batteries from transmitting circuitry, and from circuitry giving extra features, if present.
- Noise or dead spots (places where it doesn't work, especially in non-diversity systems)
- Limited number of operating microphones at the same time and place, due to the limited number of radio channels (frequencies).
- Higher cost in proportion to fewer other features
- Lower sound quality





ADVANTAGE



- Greater freedom of movement for the artist or speaker
- Avoidance of cabling problems common with wired microphones, caused by constant moving and stressing the cables
- Reduction of cable "trip hazards" in the performance space
- Galvanic isolation of microphone, avoiding ground loops between microphone and other electrical instruments on stage





MCQ



1. High frequency speakers are commonly known as
 - a. Tweeter b. Woofers c. Speakers d. Loudspeakers
2. Mid frequency and extend frequency speakers are commonly known as
 - a. Tweeter b. Woofers c. Speakers d. Loudspeakers
3. An electro-acoustic transducer, which converts an electrical audio signal into a corresponding sound is called
 - a. Woofers b. Speakers c. Loudspeakers d. Headphone





*Thank
you*

