

THE FIVE ELEMENTS OF SOUND

“SOUND IS
HALF THE
PICTURE”

-STEVEN SPEILBERG

THE FIVE ELEMENTS OF SOUND

- 1.) DIALOGUE (& WILD)**
- 2.) BACKGROUND**
- 3.) MUSIC**
- 4.) FOLEY**
- 5.) SOUND EFFECTS**

THE FIVE ELEMENTS OF SOUND

DURING SHOOTING

BACKGROUND / ROOM TONE

DURING SHOOTING *AND* POST PRODUCTION

DIALOGUE & WILD SOUND
SOUND EFFECTS – PRACTICALS

DURING POST PRODUCTION

MUSIC
FOLEY
SOUND EFFECTS – DIGITAL

OVERVIEW OF AUDIO GEAR

ALWAYS REMEMBER:

**YOU CAN'T MAKE
BAD SOUND GREAT
IN POST.**

OVERVIEW OF SOUND FOR FILM

EVEREST – AS RECORDED ON-SET: <https://youtu.be/00Z3mvxYusk>

OVERVIEW OF SOUND FOR FILM

EVEREST – FINAL AUDIO: <https://youtu.be/mnheSnqhi-0>

ON LOCATION SOUND – HOW TO

The Three Keys to Great Audio for Video

https://youtu.be/FoW_a-D6AfE

THE THREE THINGS THAT DETERMINE THE QUALITY OF YOUR SOUND

CHOICE OF EQUIPMENT

- WHICH MIC OR MICS?
- XLR CABLE OR LITTLE MICRO JACK?

MIC PLACEMENT

- SHOTGUNS (BOOMS) AIM FOR THE THROAT, NOT MOUTH
- LAVS NEED TO BE CLOSE, BUT HIDDEN
- PLACEMENT DEPENDS ON THE PICK-UP PATTERN OF THAT MIC

MONITORING

- VISUALLY (VIA VU METER – VOLUME UNIT)
- AURALLY (VIA HEADPHONES)

TERMS YOU GOTTA KNOW

“CLIPPING” / “PEAKING”

“LIVE” vs “DEAD”

“SYNCHING”

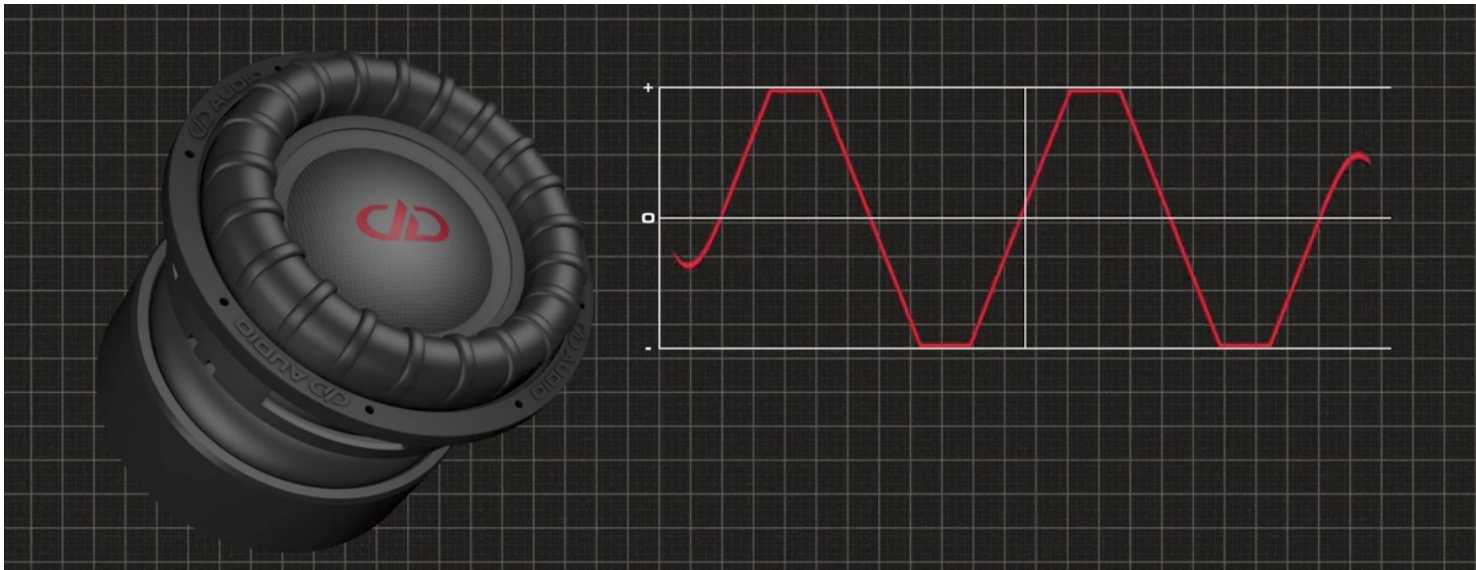
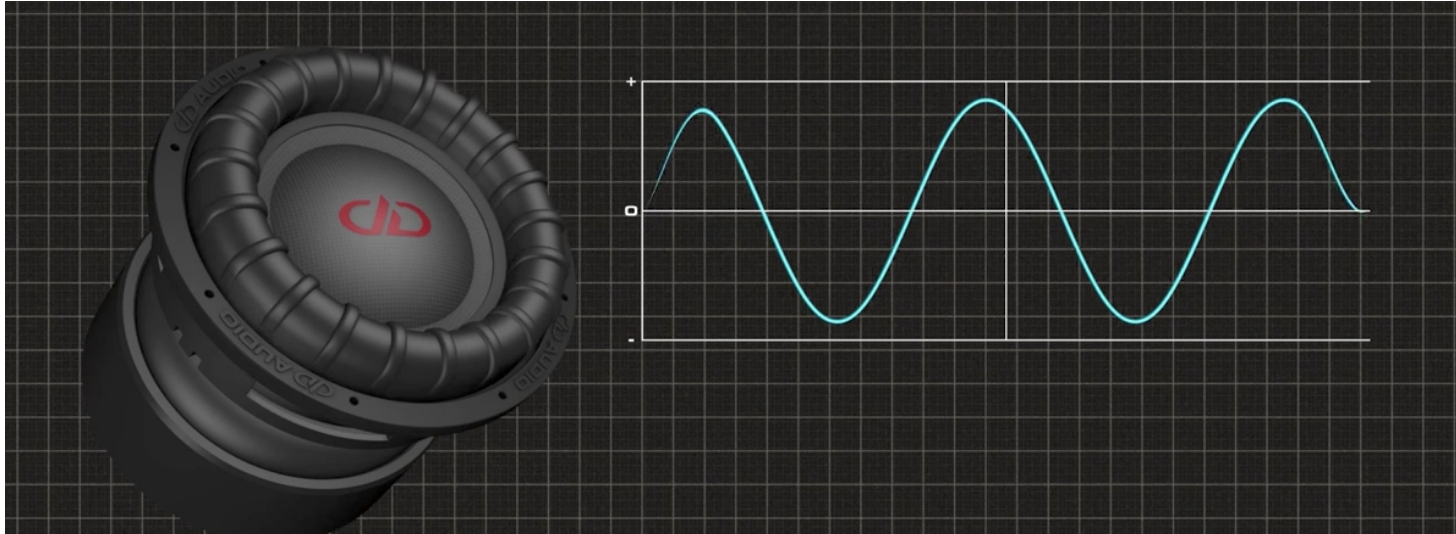
“ON BOARD”

“SHOCK MOUNT”

“PISTOL GRIP”

CLIPPING

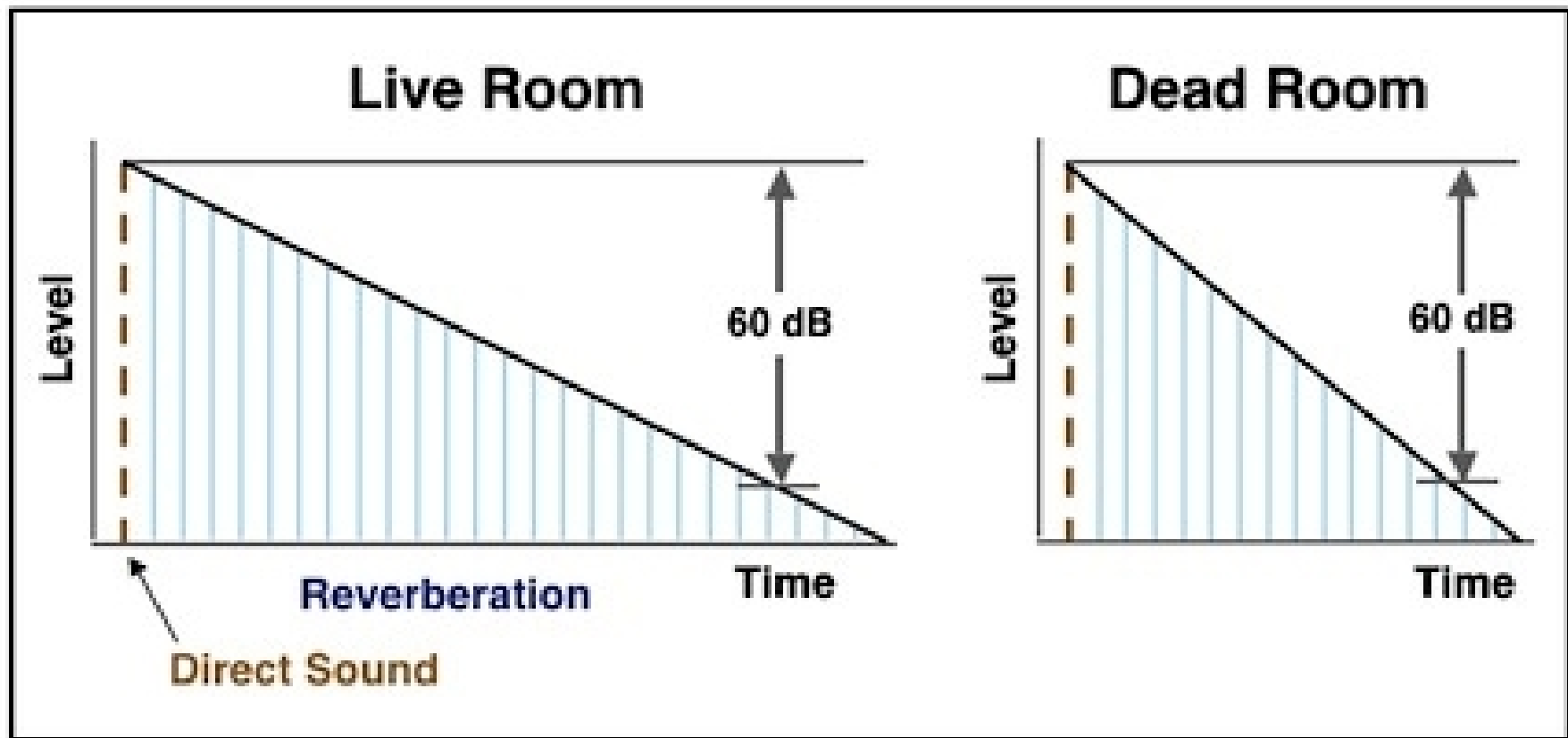
- Going into the red on a VU meter
- Indicates that the sound is so loud that you'll get distortion or the mic will “drop out”



Even though “distortion” is different, clipping is often called “distortion”

“LIVE” vs “DEAD”

Rooms are often described also as being acoustically “live” or “dead.” When a room has a long reverberation time, it is said to be a “live” room, and when the sound reflections die rapidly, the room is considered a “dead” room.



SYNCH

Aligning the video track to the audio track in post-production if you have recorded audio on an external drive.



“ON BOARD”

As opposed to “external” – on board refers to any mic that is built in to the camera itself. Because these are omnidirectional and far from their source, the sound is often crap

<https://youtu.be/wmCz6YVtWtg>

SHOCK MOUNT

Shock mounts for microphones can provide basic protection from damage, but their prime use is to isolate microphones from mechanically transmitted noise.



PISTOL GRIP

For ease of handling without having to touch the mic and possibly get the hand sound. .



CREW – ON LOCATION AUDIO

CREW

```
graph TD; CREW[CREW] --> SMR[SOUND MIXER / RECORDER]; CREW --> BO[BOOM OPERATOR]; CREW --> SA[SOUND ASSISTANT];
```

**SOUND
MIXER /
RECORDER**

The on-set/on-location sound engineer responsible for the recording of production sound and any sync-related on-set sound mixing and playback.

**BOOM
OPERATOR**

- Supervising capture of audio onto various devices from various sources

**SOUND
ASSISTANT**

- Maintenance and management of on-set sound equipment

- Assist in the recording of ADR, foley, & music during postproduction

SOUND MIXER / RECORDER / ENGINEER

FIFTH GEAR: <https://youtu.be/Wi47knRTbv0>

SOUND MIXERS – HOW TO DO IT

FIFTH GEAR: <https://youtu.be/Wi47knRTbv0>

CREW – ON LOCATION AUDIO

CREW

```
graph TD; CREW[CREW] --> MIXER[AUDIO MIXER /RECORDER]; CREW --> BOOM[BOOM OPERATOR]; CREW --> ASSISTANT[SOUND ASSISTANT];
```

**AUDIO MIXER
/RECORDER**

Acts mainly as a liaison between the mixer/recorder and the script supervisor, managing and logging media assets.

**BOOM
OPERATOR**

Specific duties include:

- Labeling, Maintenance and management of tapes and media.
- Report of tape/shot info to script supervisor for log
- Maintenance of tape logging forms

**SOUND
ASSISTANT**

OVERVIEW OF SOUND GEAR

**YOUR FIRST PIECE OF GEAR IS
THE LOCATION ITSELF.**

IF YOU CAN'T VISIT THE LOCATION
YOURSELF, TALK TO THE LOCATION
SCOUT.

THERE'S NO SUCH THING AS A
LOCATION THAT'S TOO QUIET.

ON LOCATION AUDIO

CREW

AUDIO MIXER
/RECORDER

**BOOM
OPERATOR**

SOUND
ASSISTANT

Works under the supervision of the mixer/recorder in the recording of production sound

- Holding mic booms and cables
- Headphone monitoring of mics
- Mic placement, set-up, tear-down
- Operation of recording devices

CREW – THE BOOM OPERATOR

THE CREW CRAFT: <https://youtu.be/4ifqejVG64k>

BOOM OPERATORS – HOW NOT TO DO IT

RESERVOIR DOGS: <https://youtu.be/cF9IVXA6ddw>

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SOUND REPORT

Title:
Director:

Date: _____
Page #: _____ of: _____

Call:

Wrap:

Sound Mixer:

Contact #: 647 808 7835

Recorder:

Disc #:

SR: 44.1 48 Pull Up

BD: 16 24

TC FPS: 23.976 24 29.97 30 DF

Ref Lvl:

Media: IN HDD EX HDD CF **File Fmt:**

[illegible]

Title: WICKED GOOD MOVIE

Director: MRS. AWESOME

Date: 10/27/15 Call: 9 AM Wrap: 9 PM

Page #: 1 of: 5

Sound Mixer: MRS. AWESOME

Contact #: 647 808 7835

Recorder: RHODE 7800

Disc #: 3

SR: 44.1 48 Pull Up

BD: 16 24

TC FPS: 23.976 24 29.97 30 DF

Ref Lvl:

Media: IN HDD **EX HDD** CF **File Fmt:** .MP4

Filename	SHOT	Take	TC Start	Dur	Trk1	Trk2	Trk3	Trk4
APARTMENT	1A	1	00:00:01	01:30	BOB	JIM	JANE	BG
Notes: Airplane flew overhead at 00:59								
APARTMENT	1A	2	00:01:30	00:29	BOB	JIM	JANE	BG
Notes: good								
APARTMENT	1B	1	00:01:59	01:00	BOB	JIM	JANE	BG
Notes: good								
APARTMENT	1A	1	00:02:59	:30	WHIP			
Notes: three takes of whip sound, take #2 is best								

TYPES OF RECORDERS - NAGRA



TYPES OF RECORDERS - DAT



TYPES OF RECORDERS - DIGITAL



4 tracks



6 - 8 tracks

HOW MICROPHONES WORK

Microphones are a type of transducer - a device which converts energy from one form to another. Microphones convert acoustical energy (sound waves) into electrical energy (the audio signal).

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RADIO (WIRELESS) MICS

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.

DYNAMIC VS CONDENSER VS RIBBON

https://www.youtube.com/watch?v=2edewYkE_f0

MIC PICK UP PATTERNS

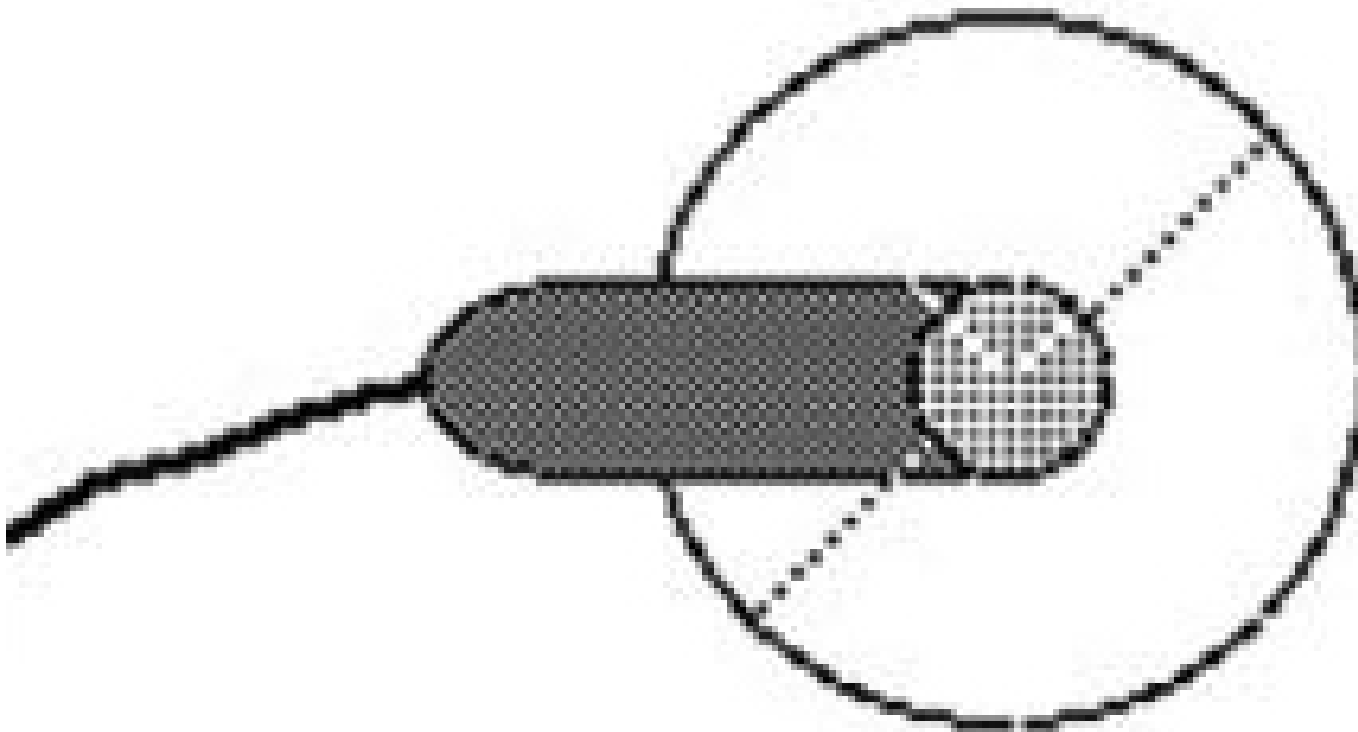
Directionality that indicates from which direction they best pick up sound.

Microphones that do not have any specific directionality (called "omnidirectional" microphones) will pick up sounds from all directions

OMNIDIRECTIONAL

Used to pick up all or wide range audio.

They are used for choirs, when many instruments are played at once, or to pick up all audio on the stage.



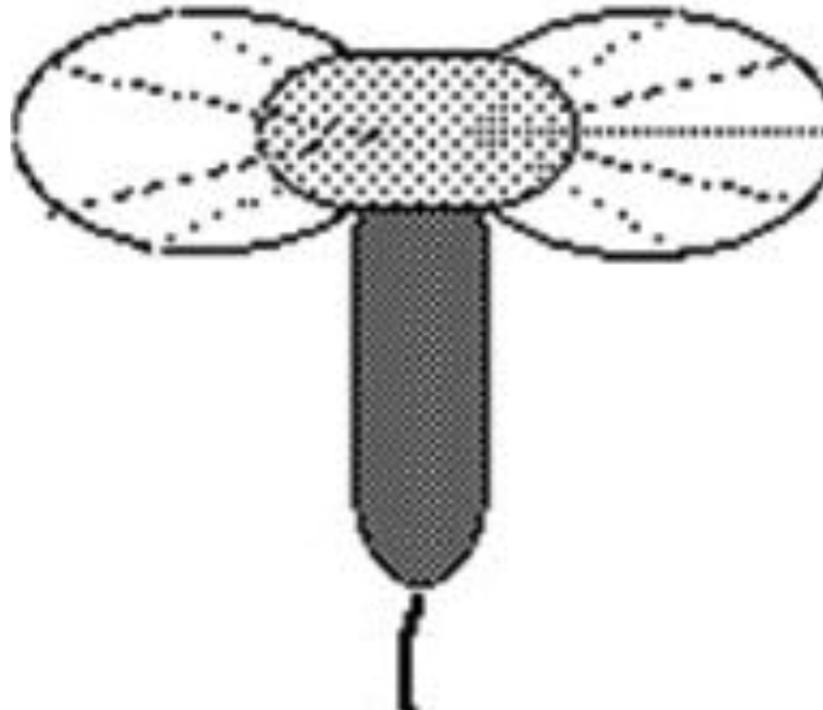
OMNIDIRECTIONAL



BIDIRECTIONAL

directionality to the front and rear. Because they pick up audio to the rear, they are rarely used with PA systems.

They are often used to record audio between two people who are face to face, such as during radio interviews.



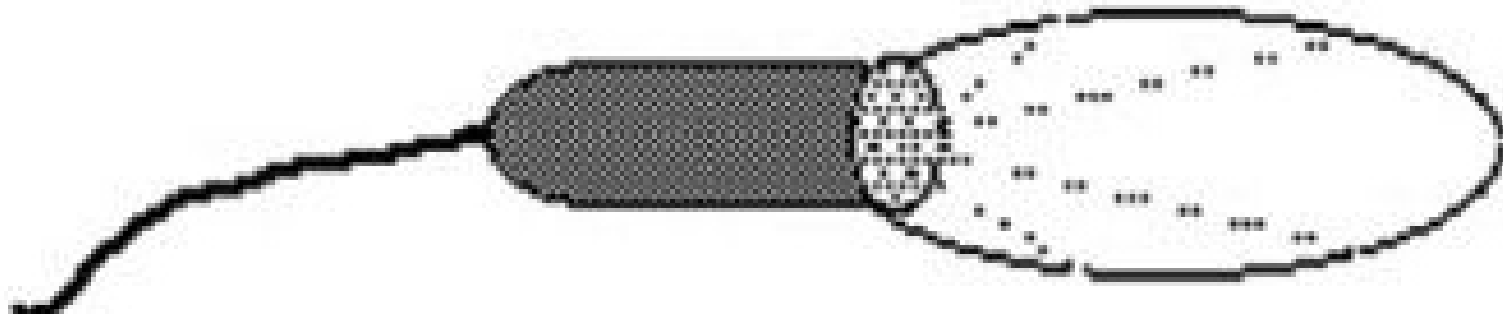
BIDIRECTIONAL



UNIDIRECTIONAL

directionality to the front only

Most often used with PA systems for vocals,
instruments, etc.



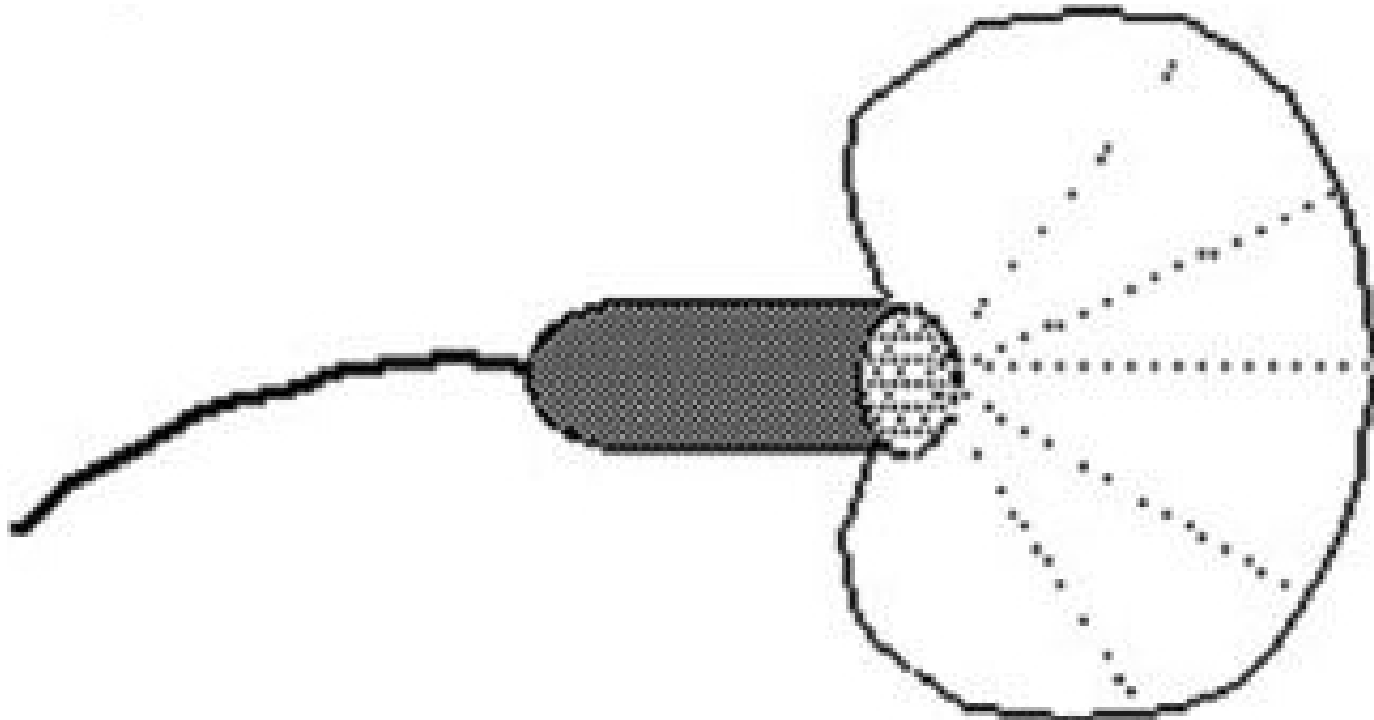
UNIDIRECTIONAL



CARDIOD MICS

"heart-shaped" pick-up pattern. Sound is picked up mostly from the front, but to a lesser extent the sides as well.

Handheld mics are usually cardioid.



CARDIOD MICS

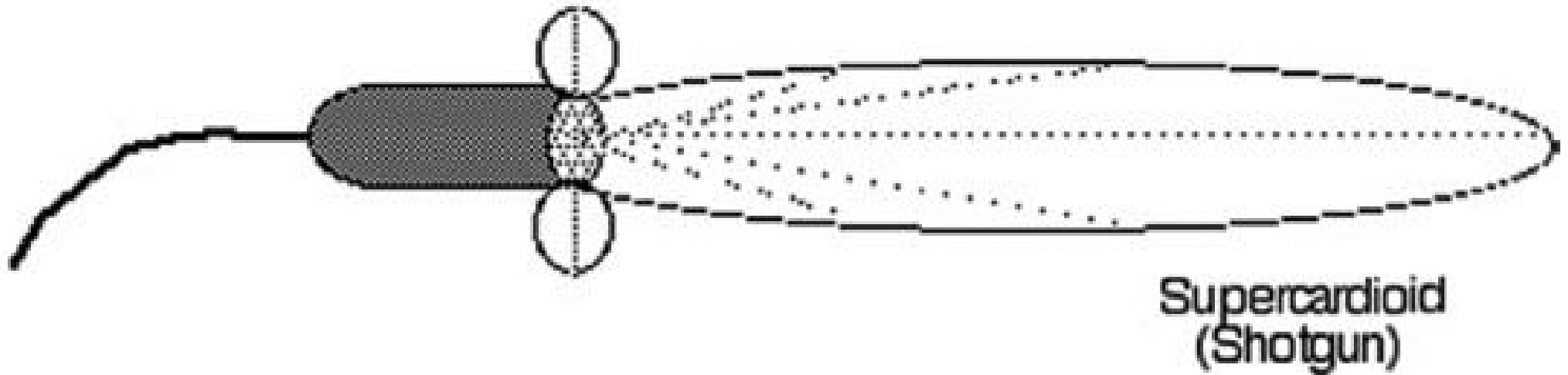


HYPER CARDIOD / SHOTGUN MICS

Very directional

Eliminates most sound from the sides and rear.

Isolating the sound from a subject when there is a lot of ambient noise; Picking up sound from a subject at a distance.



HYPER CARDIOD / SHOTGUN MICS

MKH8060



MKH8070



LAVALIERS

You can get them in omnidirectional or cardioid. There's no such thing as a "shotgun lavalier."

