

Overall Goal

Determine if there is an audible difference between two models of the same microphone, one hardwired and one transmitted through a radio mic system.

Setup

Physical Gear and Setup

Room 13 Setup:

- Hardwired Beta 58 Microphone (Rented) on stand
- Radio Beta 58 Microphone (School Owns) on stand
 - Note: Both mics placed in roughly the same acoustical environment
- RF Receiver Rack using mic level output (so both channels are using the same kind of preamp)
- Mixer

Room 14 Setup:

- One high quality speaker (JPM or equivalent) on stand.

Calibration

- Have the speaker or a sound source played and precisely match the gain on both channels.
- Make sure both mics are setup away from cabinets, walls, etc.

Test Procedure

1. One person, the “talker”, sets up in Room 13 with the door closed. Another person (or more than one) is the “listener” and sets up in Room 14 and can not see or hear what the talker is doing except through the microphone.
2. The talker flips a coin and designates one mic “A” and the other “B”. It doesn’t matter which is which but this should be written and labelled with tape on the mic stand to avoid any confusion. The talker does NOT DISCLOSE which is which until the test is over.
3. The talker then turns up mic A and talks into it, then turns mic A off and turns up Mic B, talking into each one for 10-20 seconds and going back and forth, disclosing which is which (“hey this is mic A, this is mic B”). The listener is listening for any audible differences between the two and can note a “favorite”.
4. The talker flips a coin, randomly picking either A or B and then speaks into that mic (turning only one mic at a time on) as a designated “X”. The designated X is NOT DISCLOSED to the listener until the test is over. The talker repeats this process 10 times and writes down which mic is which (Trial 1 was A, Trial 2 was A, Trial 3 was B, etc) but does NOT disclose which is which until after the test is over.
5. On each trial, the listener(s) makes their best guess as to which mic they think a given X is, and writes it down, repeating this 10 times.

Testing Procedures

RF System (Mic A) Shure U1-UA Body Pack RF

1. After building the system, make sure the rack unit’s frequency is matched with the mic’s frequency.
2. Speak into the microphone, make sure the system is running smoothly through the board and speakers.
3. Check the signal
4. EQ the mic if needed
5. As you speak into the microphone, watch the frequency response graph on the SMARRT rig and take screenshots.
6. Shut and break down the system

Analog System (Mic B) Shure Beta 58

1. Connect the SMARRT rig to the system
2. Once the system is built, speak into the mic.
3. (Make sure the POWER AMP is on) (Passive Speakers)
4. Check levels and make sure the system is working
5. EQ the mic if needed
6. Speak a few lines and screenshot the frequency response graph

7. Shut and break down the system

Lastly, TAKE PICTURES AND VIDEO of each system builds for the presentation