



Audio Engineer Audition Requirements

Air Force Audio Engineer duties include: Sound reinforcement engineer, Sound system designer/technician, Recording engineer, Recording technician, Maintenance technician

Applicant must be able to:

- Set up and operate a sound reinforcement system for one of the band's component units utilizing proper gain structure and all necessary microphones, mixing consoles, amplifiers, processors, equalizers, loudspeakers monitors, snakes, cables, stands and auxiliary gear.
- Set up and use small powered mixer system including at least six channels, one effects send and one monitor send.
- Set up and use large powered mixer system including at least 24 channels, three effects sends and four monitor sends.
- Properly integrate delayed speakers into a system.
- Assemble and operate a dedicated large-format monitor system.
- Identify microphones of various types, to include dynamic, condenser, electret, ribbon, and pressure zone.
- Interpret microphone polar pattern graphs.
- Demonstrate proper microphone positioning techniques for audio recording and live sound reinforcement.
- Identify and use wireless microphone components to include UHF and VHF systems, transmitters, receivers, and antennas.
- Utilize microphone pre-amps (including phantom power, reverse polarity and pad).
- Explain basic use of equalizers (channel, 1/3 octave, parametric, shelving & peak).
- Explain basic use of dynamics processors (compressors/limiters & noise gates).
- Understand and properly use power amplifiers (to include connecting, bridging, loading, and matching power amplifiers).
- Analyze, troubleshoot, and remedy common electrical and audio problems, ground loops, and equipment failures.
- Use test equipment such as cable testers, polarity checkers, ground fault indicators, real-time analyzers, volt/ohm meters, oscilloscopes, and fast Fourier transforms.
- Correctly identify and assemble common electrical and audio connectors.
- Assemble and solder common audio cables using appropriate connectors, wire, proper wiring protocol and technique.
- Demonstrate basic stereo recording techniques.
- Copy 2-track recorded material and transfer it from one format to another.
- Apply a working knowledge of basic acoustics, basic psychoacoustic principles, basic applied mathematics, and basic electronics (to include the Haas Effect, the 3-1 rule, the Inverse-Square law, determining critical distance, Ohm's law, etc.)