8 Application and Implementation

NOTE

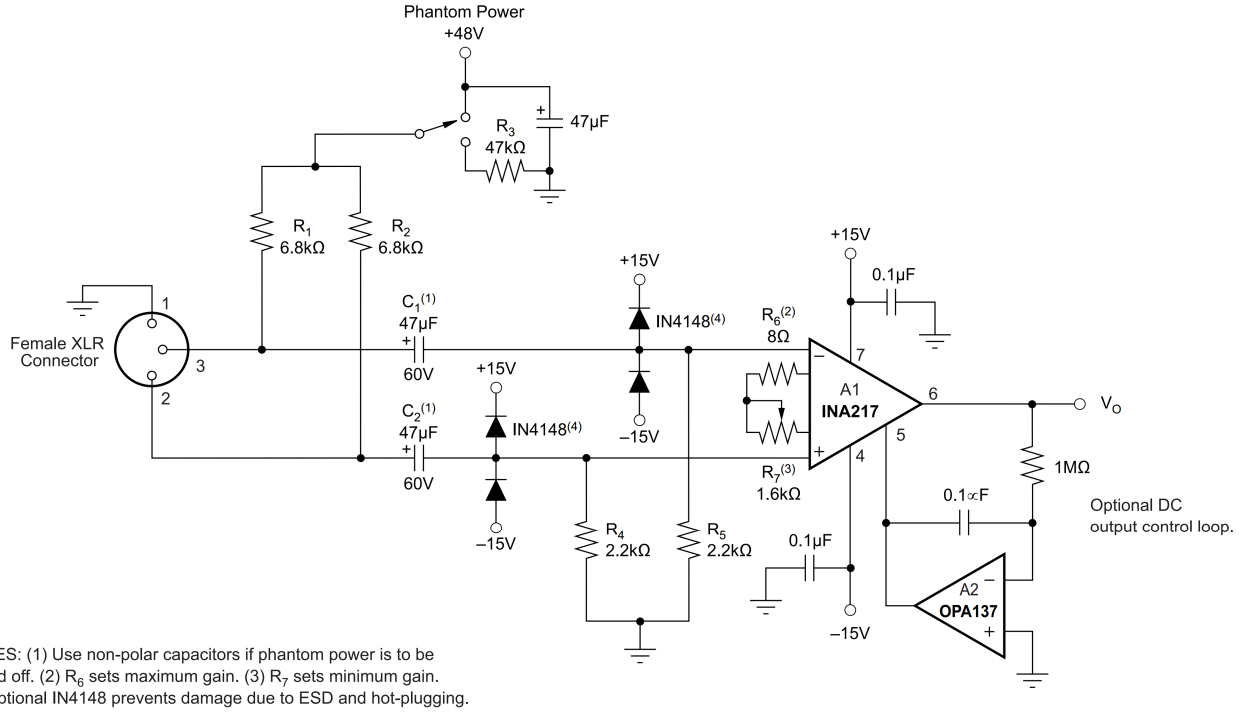
Information in the following applications sections is not part of the TI component specification, and TI does not warrant its accuracy or completeness. TI's customers are responsible for determining suitability of components for their purposes. Customers should validate and test their design implementation to confirm system functionality.

8.1 Application Information

The INA217 is used in professional audio equipment such as professional microphone preamps, moving-coil transducer amplifiers, differential receivers, and bridge transducer amplifiers.

8.2 Typical Application

Figure 16 shows a typical circuit for a professional microphone input amplifier.



NOTES: (1) Use non-polar capacitors if phantom power is to be turned off. (2) R_6 sets maximum gain. (3) R_7 sets minimum gain. (4) Optional IN4148 prevents damage due to ESD and hot-plugging.

Figure 16. Phantom-Powered Microphone Preamplifier

8.2.1 Design Requirements

- 48-V, Phantom powered, remotely located microphone
- Circuitry operates from ±15-V power supplies
- Low distortion and noise over the audio frequency band
- Gain range from to 20 db to 60 db

8.2.2 Detailed Design Procedure

R_1 and R_2 provide a current path for conventional 48-V phantom power source for a remotely located microphone. An optional switch allows phantom power to be disabled. C_1 and C_2 block the phantom power voltage from the INA217 input circuitry. Non-polarized capacitors should be used for C_1 and C_2 if phantom power is to be disabled. For additional input protection against ESD and hot-plugging, four IN4148 diodes may be connected from the input to supply lines.