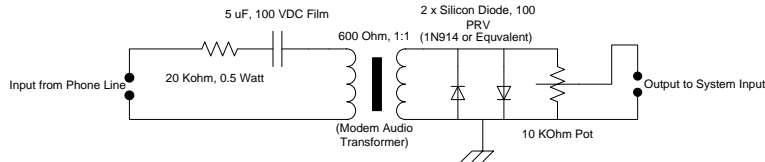


Land Line Telephone Interface Circuit (USA System)



Circuit Diagram

This land line analog interface circuit provides a higher quality signal compared to inductive or acoustic coupling methods. Its frequency response and low distortion are important as well as its ground-loop isolation between the phone line and your recording equipment. Hum levels will be quite low using this interface circuit.

It is very important to note that it is universally illegal to tap the phone line of someone else without a court order. However, in some states it is permissible to record your own phone line without second party approval. But, some states require two-party consent (both parties) before recording phone conversations. Please research your specific situation based on local and state regulations pertaining to telephone conversation recording.

Interface Circuit Notes:

1. Phone polarity input connection does not matter with this system.
2. The 5 uF Capacitor must be a Non-Polarized Film Type, 100 VDC or higher.
3. The two protection diodes can be small glass signal types; power diodes are not necessary. Use type 1N914 or equivalent (100 PRV, 200 mA, axial lead)
4. The 600 Ohm, 1:1 ratio audio transformer can be scavenged from an old computer modem board or purchased on the internet from Digikey, Newark Electronics or other similar outlets. You can use Tamura TTC-294 or equivalent.
5. The phase relationship between the primary and secondary sides of the transformer are not important.
6. The 20 KOhm fixed resistor should be +/- 10 % or better (it can be carbon composition, metal film or metal oxide – the type doesn't matter).
7. The 10 KOhm Potentiometer should also be +/- 10 % and can be of the linear or audio taper variety, but audio taper pots usually give the user easier adjustability. You can use carbon or cermet; both types work well in this application.
8. Adjust the 10 KOhm Potentiometer for the proper input level to the systems sound-card or audio amplifier. Adjust for minimum noise without distortion or overloading.
9. On some systems, you can use the Line Level Input and on others you may have to use the Mic Level Input. It depends on the input Voltage sensitivity of the system to which the Interface Circuit is connected. Experiment to find the best input to use.
10. The input connector preferably should be a modular telephone jack for convenience.
11. The output connector can be a 1/8 inch mini-phone jack.
12. A convenient way to construct this is on a vector style board with 0.1 inch spacing between holes.
13. The circuit can be housed in a metal Altoid, Screts, or an old Band-Aid box (or something similar). An insulating spacer should be used to prevent short-circuits between the circuit board and the metal housing.
14. The metal case of the circuit housing can be connected to the point in the diagram designated as the "chassis ground". This will improve the noise rejection ability of the interface circuit to external influences.
15. Care should be taken to assure that none of the electrical components come in contact with the metal housing.

16. Do not handle the un-enclosed circuit board when it is plugged into the telephone line. The telephone ring Voltage can give you a potentially dangerous shock.

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