MUSIC (DATA) TRANSFER BY IR BY AMPLIFICATION

The circuit of this project is an improved version of the circuit Sound/Voice transmission through IR. The disadvantage of the earlier circuit is the small range. This circuit has a better range as it uses a better transmitter with an additional amplifying unit before transmitting the electrical signals through IR LED.

The receiving unit is the same as that of the earlier version.

DESCRIPTION:

The project can be broadly divided into two parts: the transmitter and the receiver. The transmitter consists of a condenser mic, which is used as sound sensor to convert the sound signals into electrical signals. The electrical signals are amplified by the amplifying unit. For details about the amplifying unit refer to Sound Amplifier. Since the strength of the amplified output from the transistor is not enough for IR transmitter to produce high energy IR signals, so the amplified signals are further amplified using an Op-amp as amplifier with negative feedback configuration. The amplification factor is decided by the resistors R6 (1K) and R7 (10K). The output voltage is determined according to the formula V0=-(R7/R6)\*Vin. This amplified signal is transmitted through the IR LED.

The receiver receives the IR signals through an IR receiver and converts them back to sound signals through a speaker. For details of receiver section refer to Sound/Voice transmission through IR. This circuit has a better range since the strength of the transmitted signals is high. This circuit can operate at a range of around 10-15 cm.

BLOCK DIAGRAM:

