

5V Systems Power Input with Noise Reduction with Separate Ground Planes

Optional USB Power

USB PWR

V<sub>in</sub> TP

Vin\_GND

Separated Ground Planes

Optimal 4.75V Reg

3V3 TP

3V3 Level with Separate Ground Plane

Optional Single plane creator

The diagram illustrates a portable audio recorder circuit, divided into three main functional blocks:

- Audio Source Inputs:** This section shows the input connections for the recorder. It includes a "Line In Stereo Jack" with "Audio In L Line" and "Audio In R Line" signals. A "Mic LR Selector" is used to switch between "Mic In L" and "Mic In R" signals. The inputs are connected to a common ground and a 5V supply.
- Mic Pre-Amplifier:** This section contains a JFET pre-amplifier (JF13, JF14, JF15) and a MAX4466 microphone amplifier. The JFET pre-amp is configured as a voltage follower. The MAX4466 is a low-noise, high-gain microphone amplifier with a built-in JFET input stage. It is connected to a 5V supply and a ground. The output of the MAX4466 is connected to the "MAX\_OUT" pin.
- Summing Amplifiers for all Audio Sources:** This section contains two op-amp summing stages (TCL1A, TCL1B) and a band-pass filter (TCL1A). The summing amplifiers are configured as voltage followers. The band-pass filter is used for anti-aliasing and is connected to the "MAX\_OUT" pin. The summing amplifiers are connected to a 5V supply and a ground.

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Pi Audio In Shield - SMD Version		
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