ELECTRET PREAMP CIRCUIT

ABOUT
This is a very clean, high-quality, high-gain electret mic preamp. I (Stelios) came to it after having built a few different preamps, but none of them sounded as good as this one. It uses the TL071 op-amp. The circuit was found at the electro-tech forum.

ROBERT DESIGN
Schematic

Board Layout

Eagle Files
electretPreampTL071.zip

STELIOS DESIGN
PARTS

IC: TL071

1x electret mic: (Note: For most applications, a good, cheap omni mic is the Panasonic WM-61; it has a flat response but doesn’t handle too high SPL and is somewhat noisy. Similar more high-end (but more expensive) mic capsules are the Primo EM172 (lower noise floor) and the Transsound TSB-140AD).

1x battery (9v)

Connectors:

1x battery connector
1x jack (1/4”) out
1x connector for the mic

Resistors:

10k
2x 100k
3.9k (Note: for 25x gain; smaller for higher gain)
47ohm (Note: This one is not crucial, but will keep the op-amp from oscillating if a shielded cable connects to the output - shielded cables have capacitance to ground).

1k
Pot: 100k (log, i.e. audio) (Note: increase the value for higher gain)

Capacitors:

electrolytic polarized
47µF
100µF
22µF
film unpolarized (can also be ceramic)
2x 0.1µF

Board (Prototype or printable)

BREADBOARD IMAGES

These could be helpful if you’re trying the circuit out...
Stelios' dual electret preamp