

## Electret Microphone Pre-Amplifier Using TLV6741 Op-Amp

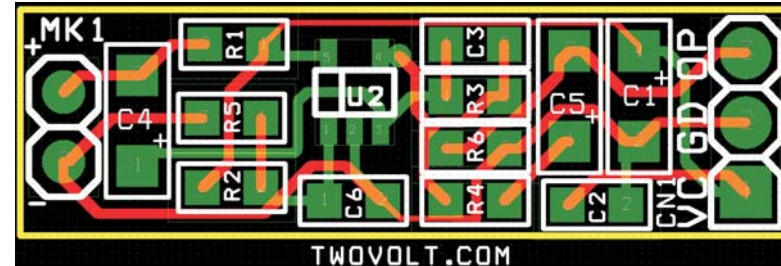
I am here with one more electret microphone preamplifier. This circuit uses an op amp in a transimpedance amplifier configuration to convert the output current from an electret capsule microphone into an output voltage. The common mode voltage of this circuit is Constant and set to mid-supply eliminating any input-stage cross over distortion, Circuit and description of the project from Texas Instruments Application.

### Features

- Supply 5V DC
- Input Pressure 100dB SPL(2Pa)
- Output Voltage 1.228V
- Frequency Response Deviation @20Hz>-0.5dB,@20Khz>-0.1dB

### Microphone Parameter

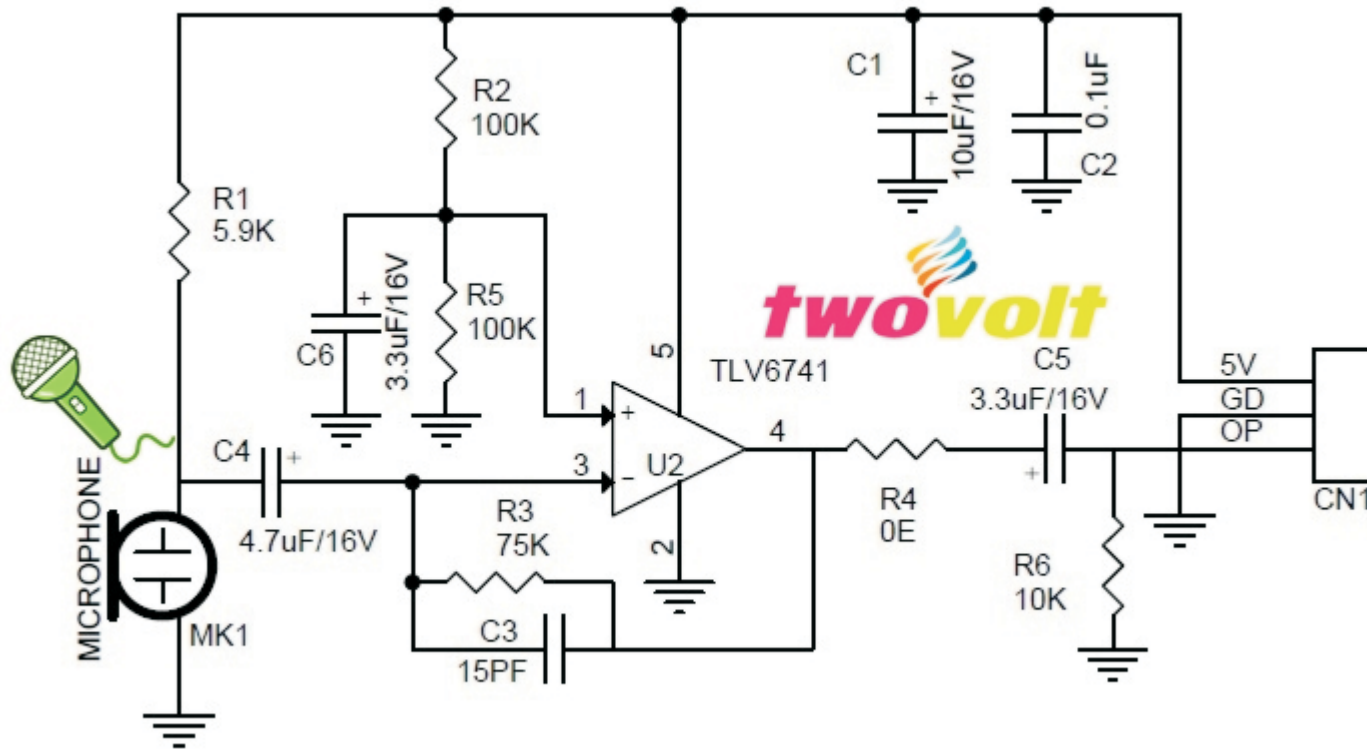
- Sensitivity @94dB SPL (1Pa) >>-35+/-4dBV
- Current Consumption (Max)>>0.5mA
- Impedance>> 2.2KOhms
- Standard Operating Voltage 2V



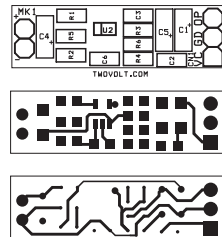
### Op-Amp TLV6741

The TLV6741 operational amplifier (op amp) is a general-purpose CMOS op amp that provides low noise of 3.7 nV/vHz and a wide bandwidth of 10 MHz. The low noise and wide bandwidth make the TLV6741 device attractive for a variety of precision applications that require a good balance between cost and performance. Additionally, the input bias current of the TLV6741 supports applications with high source impedance. The robust design of the TLV6741 provides ease-of-use to the circuit designer due to its unity-gain stability, integrated RFI/EMI rejection filter, no phase reversal in overdrive conditions and high electrostatic discharge (ESD) protection (1-kV HBM). Additionally, the resistive open-loop output impedance makes it easy to stabilize with much higher capacitive loads. This op amp is optimized for low-voltage operation as low as 2.25 V ( $\pm 1.125$  V) and up to 5.5 V ( $\pm 2.75$  V), and is specified over the temperature range of  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ . The single-channel TLV6741 is available in a small size SC70-5 package.

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<b>BOM</b>			
<b>SR.</b>	<b>QNTY</b>	<b>REF</b>	<b>DESC.</b>
1	1	CN1	3 Pin Male Header Connector
2	1	C1	10uF/16V SMD 1206
3	1	C2	0.1uF SMD 0805
4	1	C3	15PF SMD 0805
5	1	C4	4.7uF/16V SMD 0805
6	2	C5,C6	3.3uF/16V SMD 0805
7	1	MK1	CONDENSOR MICROPHONE
8	1	R1	5.9K SMD 0805
9	2	R2,R5	100K SMD 0805
10	1	R3	75K SMD 0805
11	1	R4	0E SMD0805
12	1	R6	10K SMD 0805
13	1	U2	TLV6741 SMD SC70

