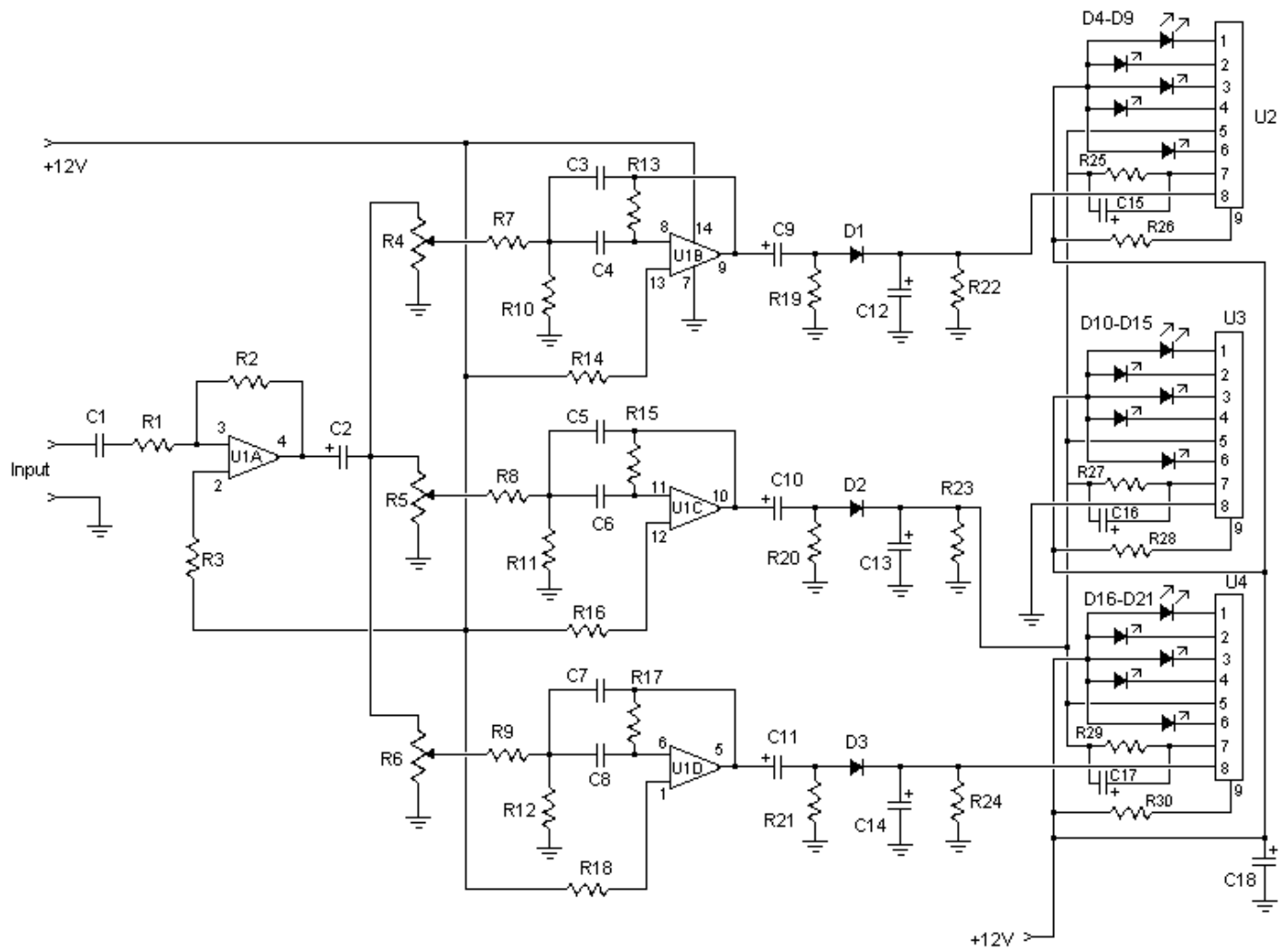


Three Channel Spectrum Analyzer

Here is a simple analog circuit from [Electronic Circuits](#) that provides a visual, bar graph Spectrum Analyzer for audio frequencies:

This 3 channel 15 LED spectrum analyzer is the perfect addition to any audio amp project. It produces fantastic displays on three LED bars that can be individually adjusted for any particular frequency range. The circuit will take line level output from most any audio source, and operates on 12V DC. This means that it can even be run in a car.

Schematic



Parts:

Part	Total Qty.	Description	Substitutions
R1	1	100K 1/4W Resistor	
R2	1	820K 1/4W Resistor	
R3, R14, R16, R18	4	2.2 Meg 1/4W Resistor	
R4, R5, R6	3	22K Pot	
R7, R8, R9, R25, R27, R29	6	10K 1/4W Resistor	
R10, R11, R12	3	680 Ohm 1/4W Resistor	
R13, R15, R17	3	580K 1/4W Resistor	
R19, R20, R21	3	39K 1/4W Resistor	
R22, R23, R24	3	47K 1/4W Resistor	
R26, R28, R30	3	33 Ohm 1/4W Resistor	
C1, C5, C6	3	0.012uF Polystyrene Capacitor	
C2, C9, C10, C11	4	3.3uF Electrolytic Capacitor	
C3, C4	2	0.0022uF Polystyrene Capacitor	
C7, C8	2	47nF Polystyrene Capacitor	
C12, C13, C14	3	0.47uF Electrolytic Capacitor	
C15, C16, C17	3	22uF Electrolytic Capacitor	
D1, D2, D3	3	1N4002 Silicon Diode	
D4, D5, D6, D8, D8	5	Green LED	
D10, D11, D12, D13, D14	5	Amber LED	
D16, D17, D18, D19, D20	5	Red LED	
U1	1	LM3900 Quad Op Amp	
U2, U3, U4	3	AN6884 Bar Graph IC	
MISC	1	Board, Wires, Sockets For ICs	

Notes:

1. The circuit expects line level inputs. If you connect it to speaker level, you will have to readjust the circuit every time you change the volume.
2. After the circuit is connected, apply power and signal. Now adjust the pots until the corresponding group of LEDs reacts.