



Electric Druid AUDIOMETER

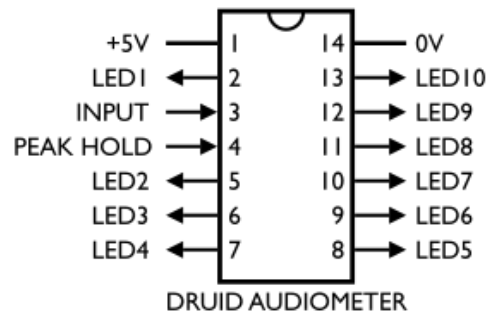
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Introduction

The Electric Druid AUDIOMETER chip was developed to replace the LM3914/LM3915/LM3916 series chips that are no longer made. It provides a one-chip solution for audio level indication using LED bargraph displays of up to ten LEDs.

The chip provides an instantaneous display of the audio level without requiring any rectification or smoothing of the audio input. It also optionally provides a very useful “peak hold” feature which shows the recent maximum level. This helps you set levels to prevent clipping even on transient peaks.

Pinout Diagram



Pin	Function	Details	Notes
1	+5V	Power supply	
2	LED1	0-5V digital output	LED output
3	INPUT	0-5V analog input	Audio input, should be biased to 2.5V. See application circuit for details.
4	PEAK HOLD	0-5V digital input	Inverted logic. Grounded = Peak Hold On
5	LED2	0-5V digital output	LED output
6	LED3	0-5V digital output	Etc..
7	LED4	0-5V digital output	
8	LED5	0-5V digital output	
9	LED6	0-5V digital output	
10	LED7	0-5V digital output	
11	LED8	0-5V digital output	
12	LED9	0-5V digital output	
13	LED10	0-5V digital output	
14	0V	Power supply	



Application Notes

The chip is very simple to use. The following schematic shows an entire application circuit. The chip regards a 5Vpp level as “full scale”, and provides the following indications:

LED	dB
10 (Max)	0dB
9	-1dB
8	-2dB
7	-3dB
6	-4dB
5	-6dB
4	-9dB
3	-13dB
2	-18dB
1 (Min)	-24dB

The LED series resistors should be selected to limit the LED current to a reasonable level. The chip can supply a maximum of 20mA per pin, but no more than 250mW should be used by the entire chip, so a more sensible limit is 5mA or below. With modern LEDs this is not a serious problem, and the prototype unit used 2mA LEDs without difficulty.

The PEAK HOLD input uses inverted logic and has an internal pull-up resistor. If the feature is not required, the pin can be left unconnected. If it is grounded, the Peak Hold feature is switched on.



Peak Hold: Grounded = On

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