

# Press Release

## PA4201 Pop-Up-Noise-Killer "PUNK" in DFN-8 Package



Tempe, Ariz., July 13, 2007 Protek Analog, a division of ProTek Devices introduces the PA4201 Pop-Up-Noise-Killer (PUNK). The primary function of this device is to control power supply transition noise in audio circuits and systems otherwise known as "POP".

The Protek Analog PUNK boasts of several features that make it a "one of a kind" product on the market. Most notably, the startup time can be controlled by an external RC circuit and the designer can implement SOFT mute on an audio line during normal operation. The SOFT mute delay can be controlled by an external capacitor (CEXT, <math>< 1\mu\text{F}</math>) from 5 ms to 5 minutes. Other competing devices on the market have fixed delays of 220ms – 300ms.

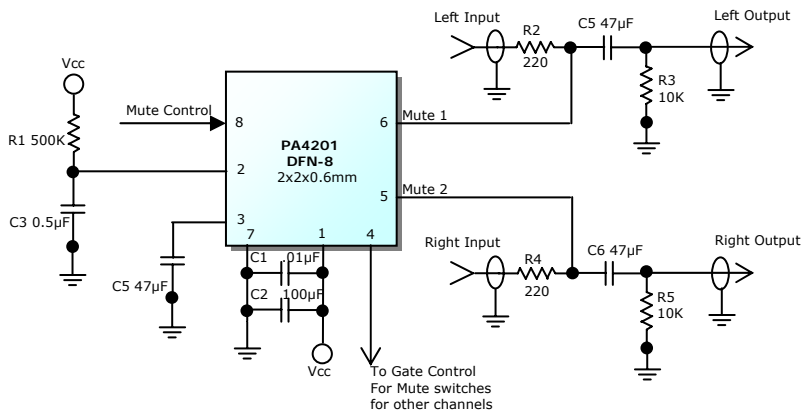
The PA4201 requires few external components for its operation, working from low to medium power supply voltages of 2.7V to 5.5V. As soon as a change in the power supply is detected, the PUNK ensures that audio inputs to amplifiers are switched to a convenient low impedance voltage rail preventing the "POP" that is heard on most audio systems.

The PUNK operates as a passive shunt device and consumes less than 500nA of supply current, while providing more than 45dB of mute attenuation at the audio lines. Unlike other company's products, the engineer using the PUNK does not have to worry about PSRR, THD +N, low frequency response, cross-talk or isolation.

The PA4201 outputs are equipped with ESD (Human Body Model) protection circuitry. This device is available in an 8 pin low profile 0.6mm DFN-8 package and is specified for operation over the -40°C to +85°C temperature range.

Sample quantities are available upon request. Pricing is \$1.15 each in quantities of 3,000 pieces. SPICE model and parameters for circuit simulation are available upon request.

### TYPICAL APPLICATION



### TYPICAL WAVEFORMS

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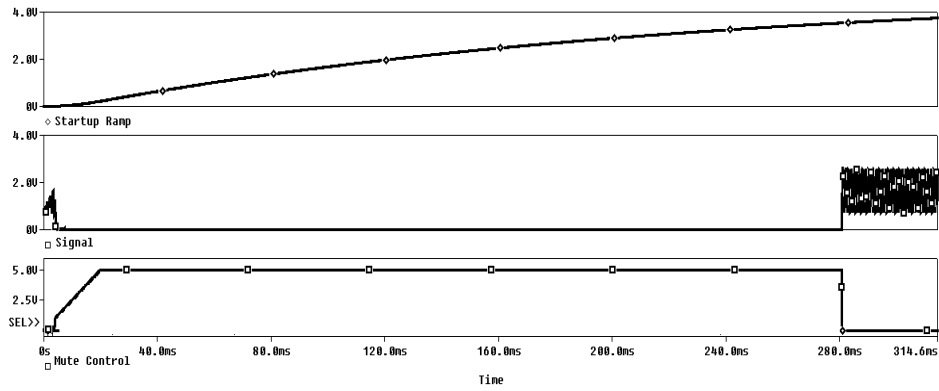


Figure 1: Startup Pop-Noise Reduction

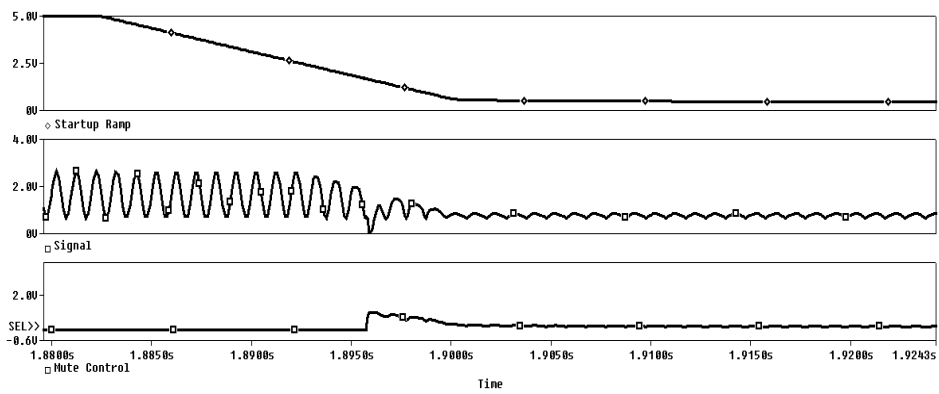


Figure 2: Shutdown Pop-Noise Reduction

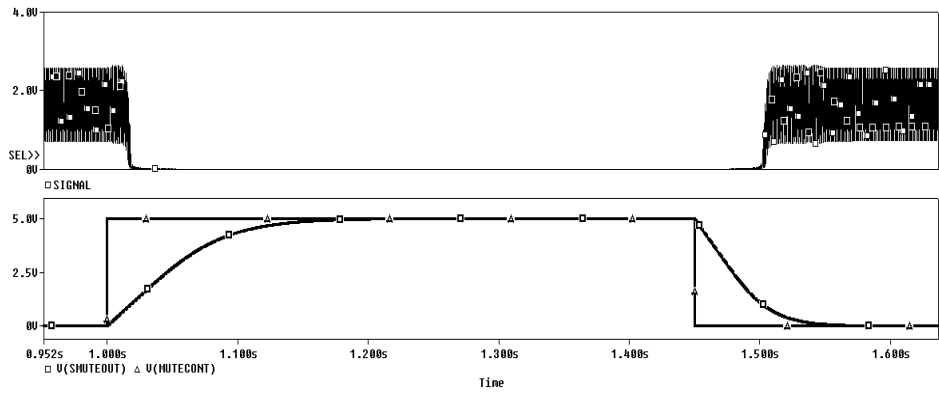


Figure 3: SOFT mute operation

## APPLICATION USES

# Press Release

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- Cell phones
- PDAs
- Portable DVD players
- Portable MP3 players
- Notebook Audio
- Set-top boxes
- Digital Video Recorders
- LCD TVs
- Home Theater systems

## FEATURES

- Extremely Low supply current (<1μA).
- >45dB mute attenuation.
- Shunt operation.
- SOFT mute during normal operation.
- Built-in Expansion Capability. Soft Mute out for driving additional channels.
- INSTANT Power UP and power DOWN muting.
- ESD protected outputs.
- 2.7V to 5.5V supply operation.
- Compact 2 x 2 x 0.6mm 8 lead DFN.

## ABOUT PROTEK DEVICES

ProTek Devices, based in Tempe, Ariz., provides advanced Analog and transient voltage suppression (TVS) for Voice, Video and Data (V2D). With more than 25 years of engineering and manufacturing experience, ProTek provides Analog and TVS solutions which function effectively with the latest high-speed communication and networking products.

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