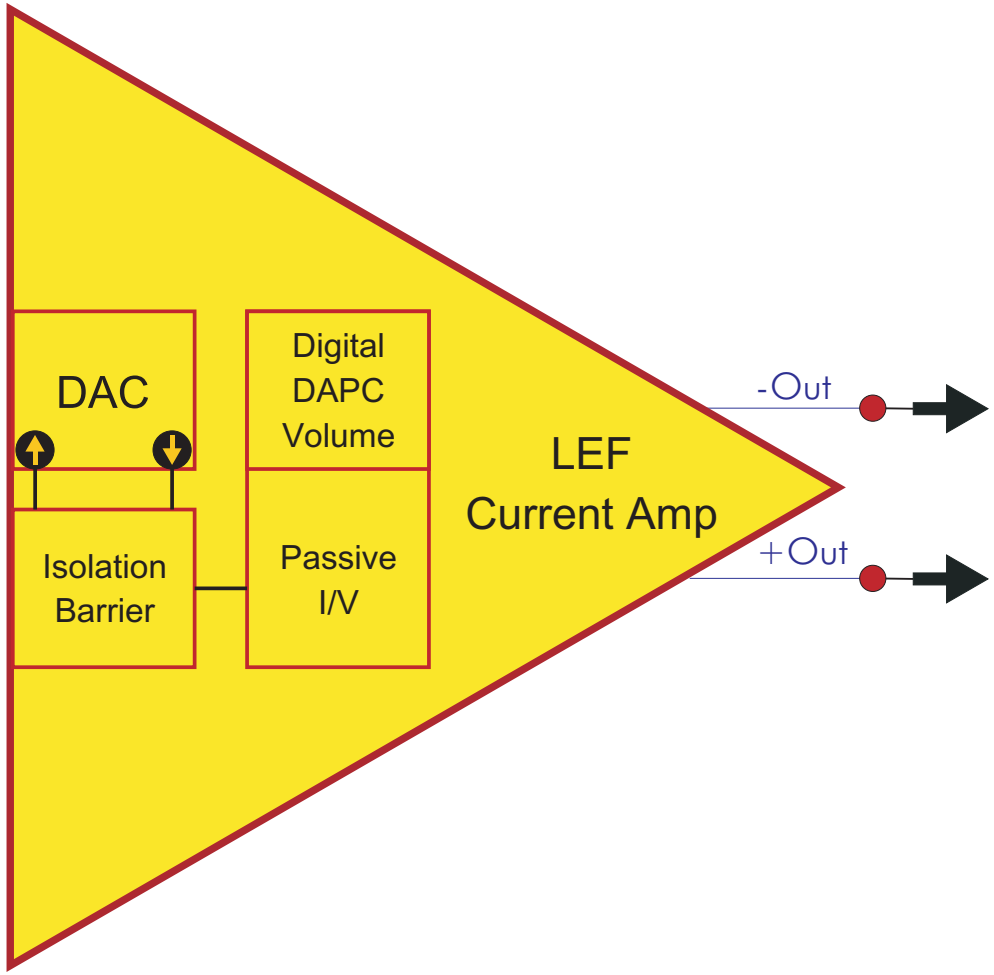
DAPC
(Digital / Analog Power Converter)
THE POWER VERSION OF CURRENT INJECTION

Fig. 1



DAPC *(Digital / Analog Power Converter)* describes the ultimate circuitry of an analogue amplifier, which directly handles digital input sources. It is the quintessence of the possibilities provided by the unique ***LEF*** (Load Effect Free) circuitry and ***IGM*** (Intelligent Gain Management). ***DAPC*** requires the presence of both: ***LEF*** and ***IGM***. ***DAPC*** is the final consequence of ***CI*** (Current Injection), as a power amplifier version.

Fig1. shows: ***DAPC*** is a totally integrated solution.

The DAC (Digital / Analog Converter) is an internal part of the power amplifier and directly generates the final speaker voltage level without any voltage amplifier stage! The current to voltage conversion is passive and therefore dynamically perfect. Because no DAC can handle such high voltage, a special isolation barrier provides a totally fixed voltage level at the DAC current output. No voltage movement results in best performance of the DAC chip. The speaker voltage is a direct product of the DAC current and therefore an “original” signal. Direct signal generation also means the absence of any feedback loop for the signal voltage circuit.

In between this original signal and the speaker there is just the LEF current booster, which has an outstanding performance. It avoids the typical transistor distortion by neutralizing any Vce and Ic variation for the speaker voltage source.

The digital DAPC volume control adjusts the target voltage. In case of an amplifier this would be called gain, but a DAPC has no input / output signal relation and thus no gain. This way of volume control improves the sound quality a lot unlike any other traditional volume control. The circuit is all bipolar and works with perfect linearity unlike CMOS solutions.

There is no shorter signal path possible, preserving the original music information in the best possible way. DAPC high tech approach serves to simplify the signal path and is a true audiophile achievement.

It is also possible to add a dual domain extension providing digital DAPC operation as well as analog LEF amplifier operation for traditional sources.