



## SILENT AUDIO SWITCHING

Sometimes electronic switches for audio signals are required. FETs can be used to perform the switching, but they can cause distortion, the resultant output impedance is not very low and clicks generated by the switching signal can break through. The circuit shown virtually eliminates all of these problems. By using an op-amp a very low output impedance is obtained as well as the possibility of selecting or mixing one or more of many input channels. Because of the virtual earth mixing, the voltage across any FET that is switched on is very small. If the output voltage is 1V and the FETs ON resistance is 470R, then the voltage across the FET is about 10 mV. When large voltages are applied to a turned on FET, the distortion is large, but if the voltage is small, (10 mV say), the distortion could be less than 0.1%. Thus the virtual earth mixing enables low distortion operation. Lastly, to stop the generation of switching clicks, a time constant of 47 msec has been enforced at the gate of the FETs.