C-MOS CHANNEL SWITCHING

Channel Switching uses C-MOS transmission gate CD4019, which contains four electronically controlled switches. The required ± 7 Volts is derived from voltage dividers across the ± 14 Volt supply. Small capacitors are included to filter RF interference.

When the control terminals of any switch is at ± 7V, the switch is ON. When the control terminal is at ± 7V, the switch is OFF.

Switch A controls the NORMAL channel and switch B controls the SUSTAIN channel. Switch C is used to switch the DC control voltage of switch B. Switch D is not used, so its terminals (10, 11, and 12) are connected to ± 7V.

Switches A, B, and C are normally biased ON through two 470k Ohm resistors. (Both channels are ON) When the monaural footswitch plug is inserted in the stereo jack, switch B (SUSTAIN) turns off, because its control terminal (pin 5) is connected to ± 7V through switch C and the footswitch plug. (Note that the center of the stereo jack is not grounded, but connected to ± 7V). Closing the footswitch will turn OFF switch A and C, which turns OFF the NORMAL channel and also removes the ± 7V from switch B, turning the SUSTAIN channel OFF.