

Delay and Mute 12 Notes – by Wapo54001 June 2022

1. The BOM specifies part numbers for size-critical parts (capacitors, relay).
2. The circuit assumes that DC-blocking is not an issue – when Muted, the signal wire is tied to the ground wire of the respective channel. Left & right channel grounds are not connected together and they are not connected to power ground which is entirely separate. If there is too much DC on the signal wire that will be connected to signal ground with uncertain consequences. This would be true of any muting circuit that shorts the signal to ground to mute the circuit.
3. The program for the 08M2 IC can be compiled with a free editor/compiler/installer available from Revolution Education (Rev-Ed) located in the UK. Rev-Ed also offer three documents (called “manuals” with all the information you need to edit (if desired to change the delay) and install the program into the Picaxe 08M2 chip. The only additional hardware you will need is a cable to connect your PC’s USB port to the chip’s serial port, and that is available as an inexpensive prebuilt cable. To connect the cable’s 3.5mm plug to the board’s programming header you will need a three wire cable with the necessary header for the PCB (available everywhere as a model airplane servo cable or equivalent). The PCB has a three-pin header which is the programming interface marked (G)round (R)eceive (T)ransmit. The servo cable will plug into the PCB and the other end must be attached to the programming cable by either using a 3.5mm jack or soldering/taping bare wires directly to the 3.5mm plug on the end of the programming cable. See the Rev-Ed manual 1 for very detailed information. The PCB will need to be powered up in order to program the chip, the serial cable does not provide power.
4. An 8-pin DIP socket is not essential but will make things easier if a mistake damages the IC and it must be replaced.
5. The delay is 4 seconds (3600ms programmed delay plus system execution overhead of 200~ 400ms), you can change that value by editing a single number in the prewritten program. Look for a line surrounded by ***** above and below, and change the 3600 to a value you prefer (in milliseconds).
6. After starting, the relay can be muted either by manual switch (PCB pad to power ground), or it will happen automatically and instantly if power is lost to the PCB. The system will automatically restart if power is restored after a delay of 4~8 seconds.