

### **Using a Dallas/Maxim DS1811 in the Reset Section.**

Thanks to Pascal Janin, there is also another way to fix the reset section with just a four parts (that replaces nearly 25 parts!) This involves using the new Dallas/Maxim Semiconductor DS1811 reset chip (TO-92 package). This inexpensive device looks like a transistor, but is really a three leg chip in a TO-92 transistor package.

The advantage to the Dallas DS1811 is great: if a system80 CPU board has had some battery corrosion and perhaps some circuit board traces are questionable, the new Dallas part will not utilize most of that. So even a board with lots of corrosion can have 25 reset parts cut out, and just the Dallas installed. Most of the questionable traces on the component side of the circuit board are eliminated too, making battery corrosion less of an issue.

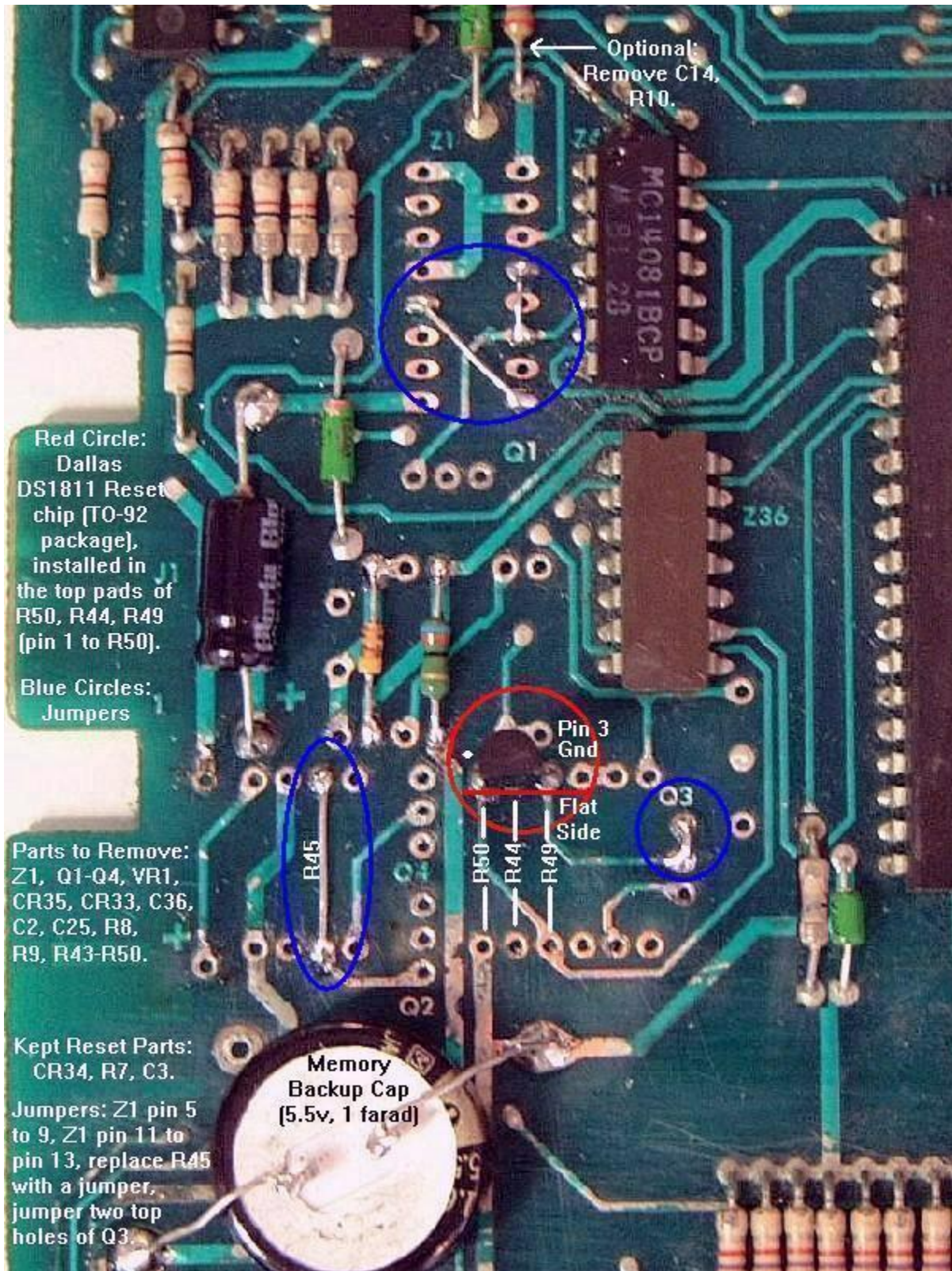
Here are the installation steps for this chip:

- Remove reset parts: chip Z1, trans Q1-Q4, diodes CR33, CR35, VR1, resistors R8, R9, R43-R50, caps C2, C25, C36.
- Install a jumper from Z1 pin 5 to Z1 pin 9.
- Install a jumper from Z1 pin 11 to Z1 pin 13. Be careful not to accidentally connect pin 12 to the jumper, as it will cause the reset modification to not work.
- Install a jumper where R45 was installed.
- Install a jumper between the two top holes of Q3 (the Emitter and Base).
- Install the Dallas DS1811 (TO-92 package) into the top pads of R50, R44, R49 (pin 1=R50, pin 2=R44, pin 3=R49). Note the flat edge of the DS1811 faces downward away from Z1, toward the dip switches.
- Retain reset parts CR34, R7 and C3.
- Note R10 and C14 can be removed or left installed. Since Z1 has been removed, R10 and C14 are no longer used, and can be removed (or left installed).

The DS1811 is installed with pin 1 going to /RESET, pin 2 to +5 volts (thanks to the jumper at R45), and pin 3 to ground (via the jumpered Q3). A picture of all the removed parts and the DS1811 and jumpers installed can be seen below. Also remember using the DS1811 will not replace the often damaged clock circuit chips at Z2 and Z3.

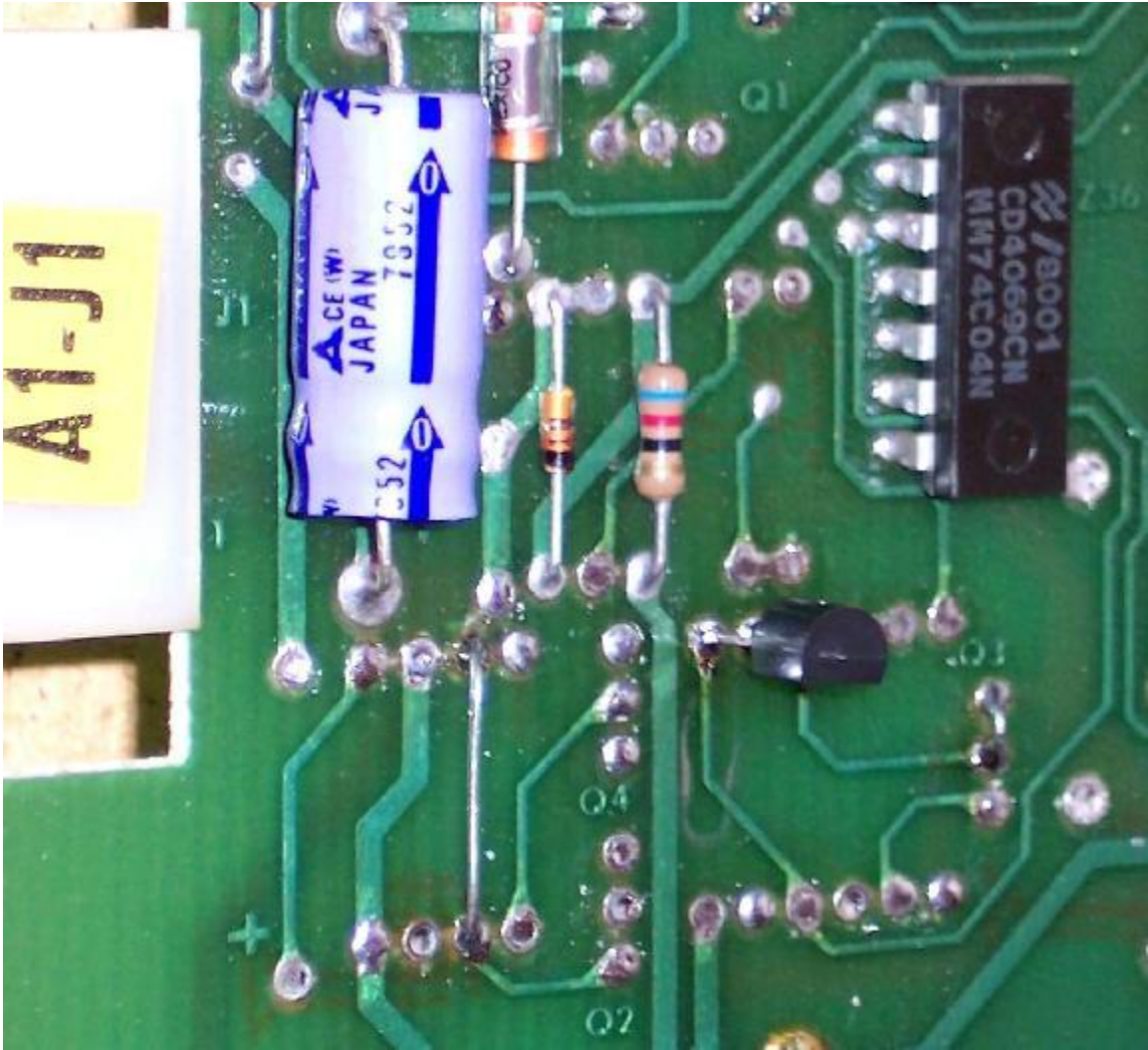
There is a side effect of the changed reset circuit: the "thunk" that is often heard at boot up on System80 games may be louder, because the reset timing is changed. The duration of the reset pulse issued by the DS1811 lasts 150ms, while the original circuitry generates a 50ms reset. This increases the startup time until the coil and lamp outputs are properly initialized, hence the slightly harder "thunk". Personally I don't really think the "thunk" is louder, but it could be different on your game.

Picture of the Dallas DS1811 installed in the Sys80 CPU board.





The Dallas DS1811 installed in the Sys80 CPU board (picture by Neil Bradley).



Another picture of the Dallas DS1811 installed in the Sys80 CPU board.

