Crumb128 V2.0 Patches
CP2101 Reset Signal Patch.

If you don't use the USB interface, this patch is not recommended!

On Crumb128 V2.0 the reset signals of ATmega128 and CP2101 are tied together. This is not an indispensable feature and can lead to the following problem:

- The CP2101 is resetted on each ATmega128 ISP download. This has an effect on the USB virtual COM port driver, which loses connection to the CP2101 and deletes the COM port from the Windows control panel. Immediately after reset is released, the driver recognizes the Crumb128 module again and tries to reinstall the COM port. If a terminal program is still allocating the former COM port number, the driver cannot install this COM port and continues with a new COM port number incremented by one.

The only workaround would be to close the terminal program before ISP download or before any occurence of a module reset. Of couse, the latter might not be well-known in advance in a real application, were a reset could be asserted by the internal watchdog or something similar.

Since the CP2101 has a built in reset generator, it is not necessary to tie its reset signal to the rest of the application. The CP2101 reset pin is an open-collector output and doesn't need any external circuit. Thus the following patch is an easy solution to fix the above mentioned problem.

Figure 1 shows the top layer of Crumb128 V2.0 with the pcb track and via to the CP2101 labeled with a red arrow. The bottom layer is shown in figure 2 with the same via labeled. There are two options to split the reset track, I recommend the second one.

- Take a sharp cutter to split the pcb track either on the top layer between the CP2101 and the via or on the bottom layer between the two vias or

- take a small drill bit (1 or 2mm diameter) and drill / countersink slighty into the via hole untili the annular copper ring of the via is milled away. Do it from the bottom side, since there are no adjacent components. Do not completely drill through the pcb!!!
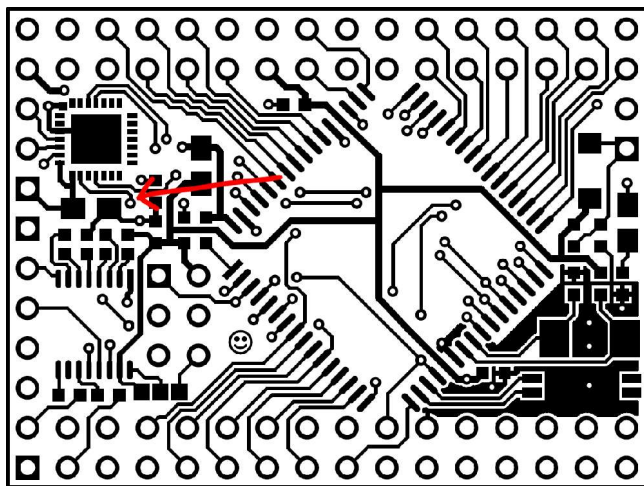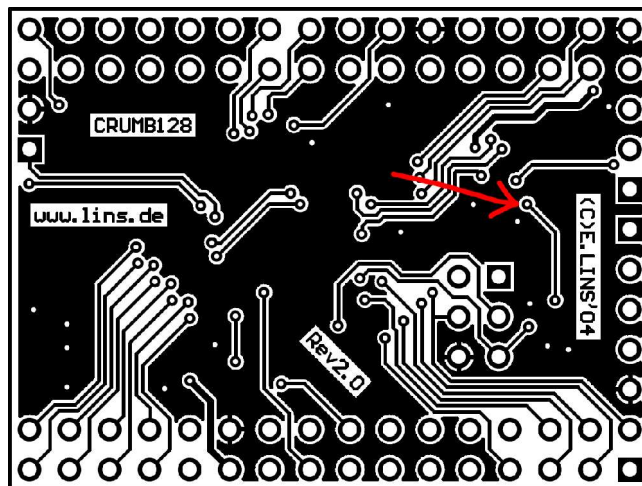

Figure1: Top Layer

Figure 2: Bottom Layer

AN002_Crumb128_Patches.sxw
© Dr. Erik Lins, chip45.com
Version 1.0, 17.2.2005

chip45.com - Dr. Erik Lins
Development and Distribution
of Hardware and Software

35440 Linden/Germany
Email: info@chip45.com
http://www.chip45.com