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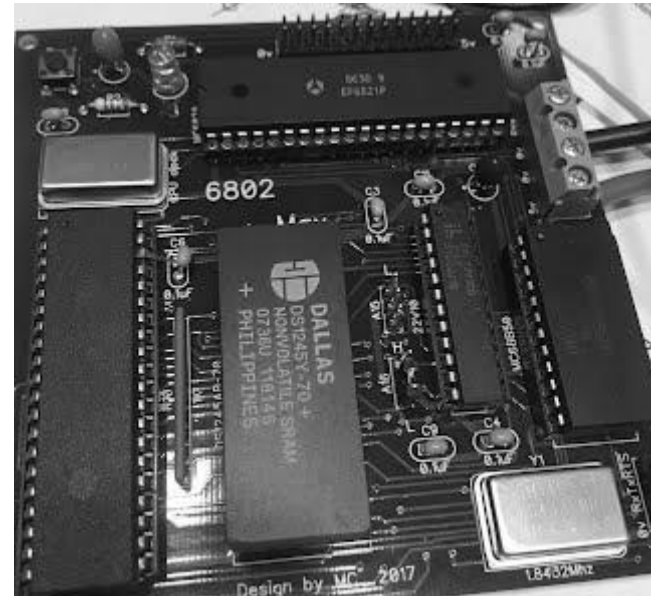
6802 MAXC D2 Board

MC6809 Max board

SBUG monitor

MC6802 Max Board

This design is using a Motorola MC6802 microprocessor. It is the same one as MC6800 without the need for external clock generator chip. It also has on-chip internal ram, which is not utilized in the design. Provision is made for a 6821PIA and 68B50 ACIA for serial comms. Both of these are reconfigurable anywhere in the 64K memory space. This is achieved by using NVRam chip(128K) and a GAL chip for all the decoding and other glue logic. Serial connection is via TTL to USB cable. There is number of different versions of 6802 micros, 6802, 68A02 and 68B02 where A and B version need 6 and 8Mhz clock chips while normal 6802 uses a 4Mhz clock chip. All of these can be implemented using this board.



Schematic for the board is shown below. Note that on the board the A15 address selector is not to be used, only the A16. Also pin 38 of the cpu might need to be left floating or pulled high .. depending on the type of chip you are using. Datasheet recommends it be grounded... but I found that to be different with some of the chips..Connection to COM pins via USB to TTL cable is:

- Black GND

Assist09 MONITOR

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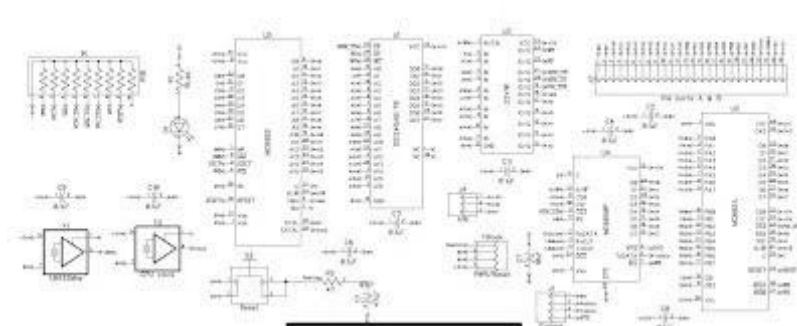
Old Micros Forum

Contact me

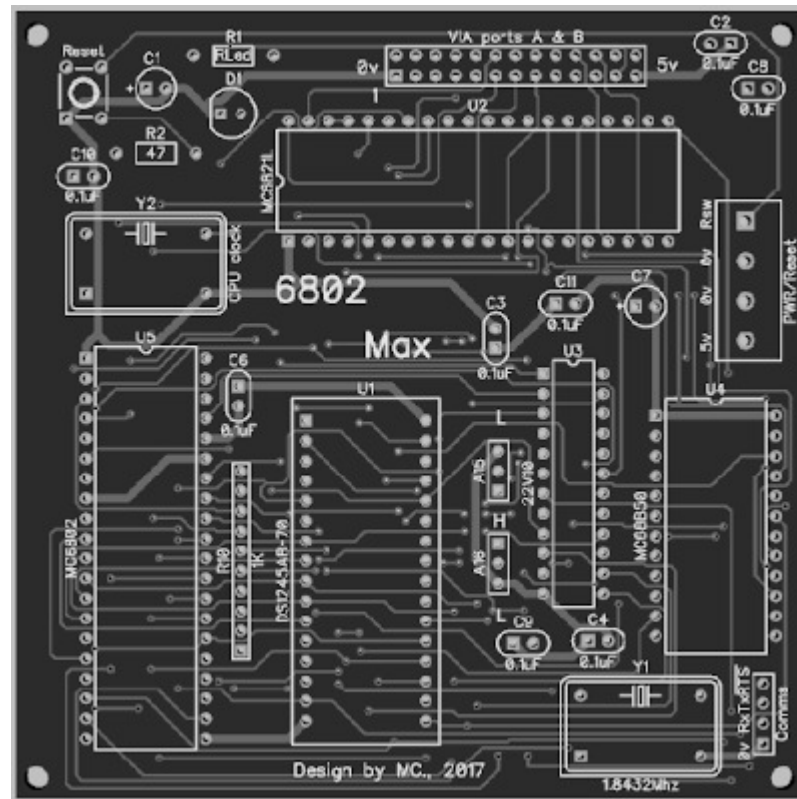
○ Green Rx

○ White Tx

I am not sure if RTS (yellow) is used .



And this is the top view of the pcb ..



To test out the board you can try few monitor type programs that have comms via the 6850 chip (baudrate @115K). This is an example for a xSWTBUG monitor program .. as described on [Corshamtech website](#). It is basically modified version of SWTBUG with few added programs.. and extra commands such as loading S type files from SD card (which is not supported by this board).

Here is 64K image file of the monitor (only the E000–FFFF is important) to be placed in nvRAM – [Download Hex file](#)

And here is the respective pld file to allocate the memory locations ...

```
Name          6802 max board;
Partno         0001;
Revision       Ver 1;
Date           14/12/17;
Designer       mc;
Company        mcoz;
Location       oz;
Assembly       manual;
Device         g22v10;
```

```
/** Inputs **/
pin [3..11] = [a7..15] ;
pin [13..17] = [a2..6] ;
pin 18 = vma;
pin 2 = eout;
pin 1 = rnw;
```

```
/** Outputs **/
pin 22 = !rd;
pin 23 = !wr;
```

```

pin 19 = !piaCS;
pin 21 = !acaCS;
pin 20 = !memCS;

/** Declarations and Intermediate Variable Definitions */

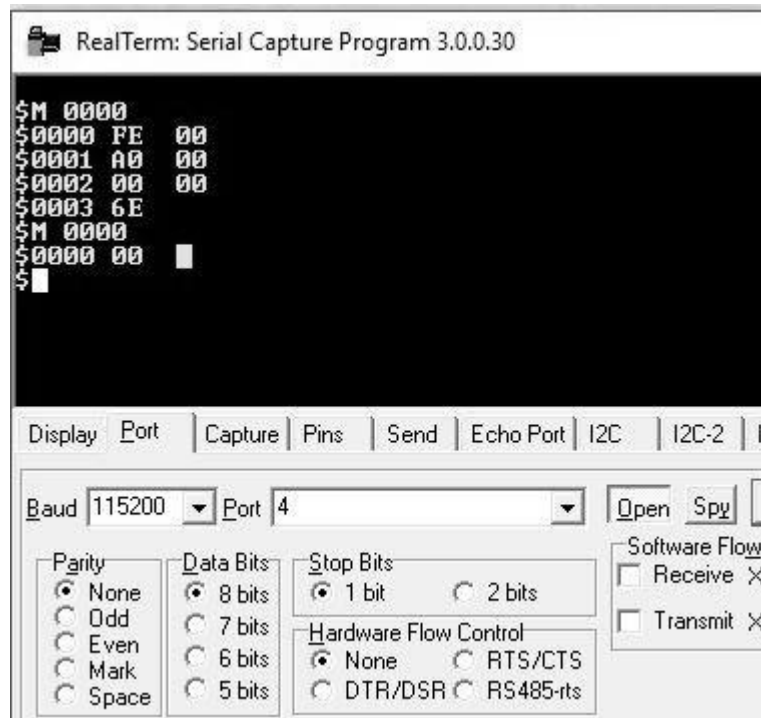
field ioaddr= [a15..2];
acaCS_eqn      = ioaddr:[8004..8005];
piaCS_eqn      = ioaddr:[88XX..8FXX];
memCS_eqn      = (ioaddr:[00XX..7FXX])#(ioaddr:[9000..DFFF])#((ioaddr:
[E000..FFFF])& rnw & vma);

/** Logic Equations */

rd      =  rnw & vma ;
wr      = !rnw  & vma;
piaCS = piaCS_eqn ;
acaCS  = acaCS_eqn;
memCS  = memCS_eqn;

```

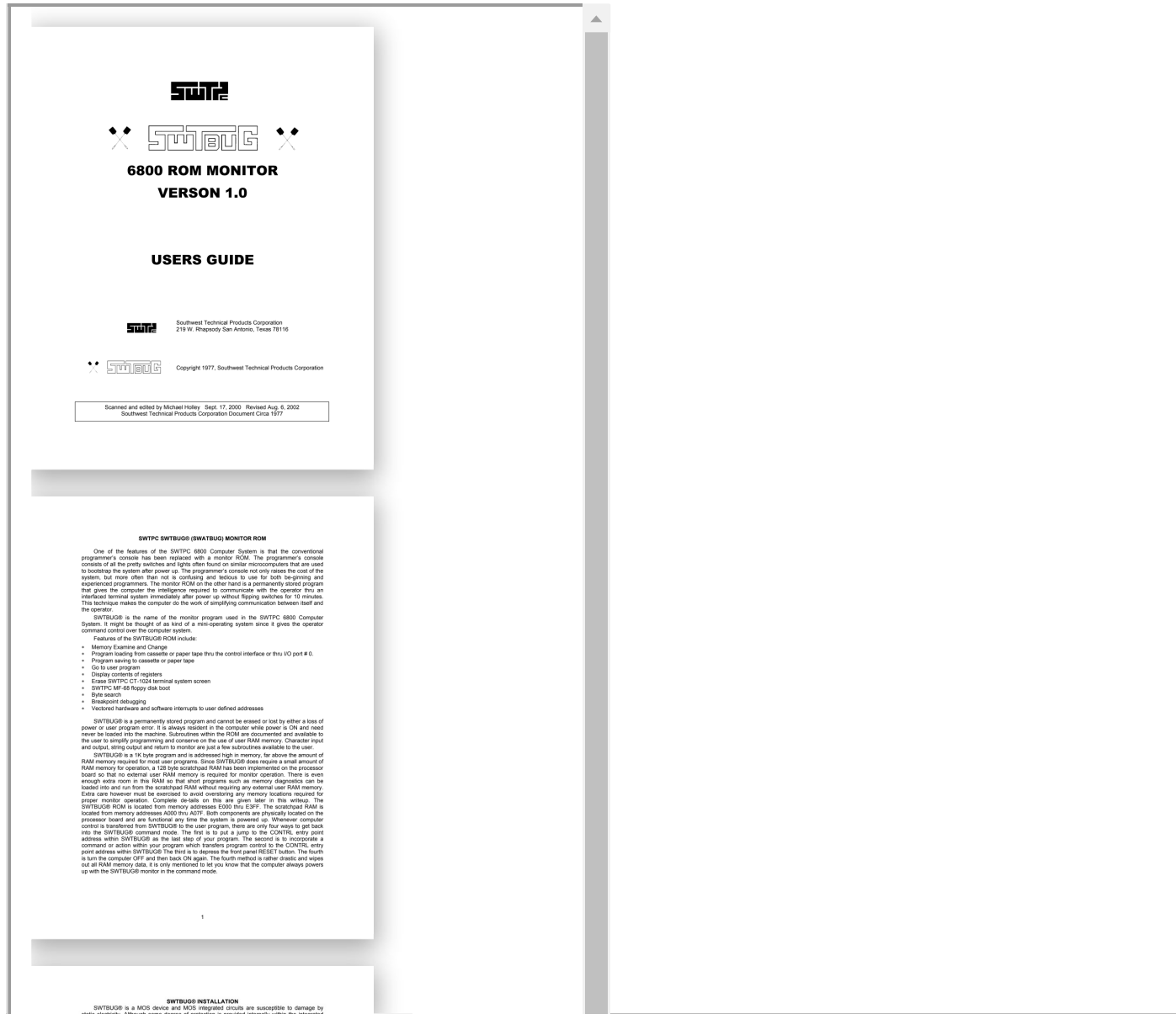
Once the board is connected to the power supply (current drain ~260mA) @ 5V... using a terminal program . . you should get a prompt "\$" on the screen where you can enter commands in capital letters.



For more information about SWTBUG see this link from www.swtpc.com. To use extended features of this monitor type in "X" and you should get a prompt of "\$\$". By typing in "?" .. gives you information about extended commands that can be used. NOTE only the two extra programs (games) can be used with this board .. SD card features are not provided with this board (maybe in future..).

To get back to normal monitor just type "X" again and you should get a single "\$" prompt.

SWTBUG User Manual



Subpages (2): [Datum Basic](#) [SDK6800 emulator](#)