

Superboard II Quick Reference

For the Briel Computers Superboard ///

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General Specifications	
CPU	65C02
Clock Speed	1 MHz
RAM	32 KB
ROM	10 KB
Keyboard	Integral 53-key
Video	Composite
Power Input	USB 5V host or power supply 1000mA or more
Serial Port Settings	9600 bps 8N1, no handshaking, no flow control

Memory Map

Address Range	Comments
\$0000 - \$00FF	Zero page RAM.
\$0100 - \$01FF	Stack RAM.
\$0000 - \$7FFF	RAM (32K Superboard ///).
\$A000 - \$BFFF	ROM (BASIC).
\$D085 - \$D39D	Video memory (25x25 mode).
\$D080 - \$D3FF	Video memory (32x28 mode).
\$DF00	Keyboard (write row, read column). Decimal 57088.
\$F000	6850 ACIA status/control register. Decimal 61440.
\$F001	6850 ACIA data register. Decimal 61441.
\$F800-\$FFFF	ROM (OSI routines and monitor).

ROM Monitor Commands

Display: AAAA DD

In address mode, enter 4 character hex address. In data mode, enter 2 character hex data.

"/" enters data mode.

"," enters address mode.

<Return> (in data mode) advances to next address.

"L" (in address mode) loads from cassette tape/serial port.

"G" (in address mode) starts execution from current address mode.

Useful Routines

Address	Description
\$000B,\$000C	Address to call get argument of USR() function. Value is returned in \$00AE,F.
\$000D	Number of NULLs to send as per BASIC NULL command.
\$000F	BASIC terminal width.
\$0064	BASIC <Control>O flag.
\$00FB	ROM monitor load flag(non-zero=load mode).
\$00FC	ROM monitor contents of current address.
\$00FE,\$00FF	ROM monitor current address.
\$0100	NMI address.
\$01C0	IRQ address.
\$0200	Cursor position for BASIC output is \$D300 +(\$0200). Default (bottom left) is \$65.
\$0203	LOAD flag (\$80=load from tape).
\$0205	SAVE flag (0=not in save mode). In BASIC, POKE 517,0 to turn off save mode
\$0212	BASIC <Control>C flag (non-zero=ignore <Control>C). Reset by RUN.
\$023E,\$023F	Address of BASIC USR() function.
\$A274	BASIC warm start.
\$BD11	BASIC cold start.
\$BF2D	Send character in A to terminal screen. Handles CR, LF, etc.
\$FCB1	Send character in A to ACIA.
\$FD00	Get key from keyboard and return in A.
\$FE00	ROM monitor entry point.
\$FE80	Get character from ACIA and return in A.
\$FEED	Calls \$FD00.
\$FF00	Reset address.
\$FF69	Output character to screen via \$BF2D, and if SAVE flag is non-zero, also to serial/tape.
\$FFBA	Get key from keyboard, or if LOAD flag has high bit set, from serial/tape.
\$FFEB	BASIC input routine. Via vector in \$0218,9 calls \$FFBA.
\$FFEE	BASIC output routine. Via vector in \$021A,B calls \$FF69.
\$FFFA,\$FFFC	NMI vector.
\$FFFC,\$FFFD	Reset vector.
\$FFFE,\$FFFF	IRQ vector.

Microsoft BASIC

Commands: CONT, LIST, NEW, NULL, RUN

Statements: CLEAR, DATA, DEF, DIM, END, FN, FOR, GOSUB, GOTO, IF, INPUT, LET, LOAD, NEXT, NOT, NULL, ON, OR, POKE, PRINT, READ, REM, RESTORE, RETURN, SAVE, STEP, STOP, THEN, TO, WAIT, ?

Functions: ABS(), ASC(), ATN(), CHR\$(), COS(), EXP(), FRE(), INT(), LEFT\$(), LEN(), LOG(), MID\$(), PEEK(), POS(), RIGHT\$(), RND(), SGN(), SIN(), SPC(), SQR(), STR\$(), TAB(), TAN(), USR(), VAL()

Operators: +, -, *, /, ^, NOT, AND, OR, =, <, >, <>, >=, <=

Editing:

<Shift>N	^ character	<Shift>+O	Erase last character
<Shift>+P	Erase current line	<Control>+C	Interrupt running program or LIST command
<Control>+O	Suspend output until typed again		

Boot Prompt

D/C/W/M ?_

```

| | | |
| | | | → ROM Monitor
| | | | → Warm start (does not clear any BASIC program)
| | | | → Cold start (clears any BASIC program)
| | | | → Disk boot (requires disk controller)

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Miscellaneous

Default video is 25 chars x 25 lines. Power on with BREAK key down to get 32 chars x 28 lines. BASIC always uses 24x24.

Serial Port protocol: 9600 bps, 8N1, no flow control or hardware handshaking. For BASIC, use 50ms char delay, 200ms line delay.

Sample Linux commands to initialize serial port and send file:

```

stty -hup -clocal raw 9600 </dev/ttyUSB0
ascii-xfr -s -l 200 -c 50 program.bas >/dev/ttyUSB0

```

Video Memory

25x25 Video Mode

Hex	Dec		Hex	Dec
D085	53381	<div></div>	53405	D09D
D0A5	53413	<div></div>	53437	D0BD
D0C5	53445	<div></div>	53469	D0DD
D0E5	53477	<div></div>	53501	D0FF
D105	53505	<div></div>	53533	D11D
D125	53541	<div></div>	53565	D13D
D145	53573	<div></div>	53597	D15D
D165	53605	<div></div>	53629	D17D
D185	53637	<div></div>	53661	D19D
D1A5	53669	<div></div>	53693	D1BD
D1C5	53701	<div></div>	53725	D1DD
D1E5	53733	<div></div>	53757	D1FD
D205	53765	<div></div>	53789	D21D
D225	53797	<div></div>	53821	D23D
D245	53829	<div></div>	53853	D25D
D265	53861	<div></div>	53885	D27D
D285	53893	<div></div>	53917	D29D
D2A5	53925	<div></div>	53949	D2BD
D2C5	53957	<div></div>	53981	D2DD
D2E5	53989	<div></div>	54014	D2FD
D305	54021	<div></div>	54045	D31D
D325	54053	<div></div>	54077	D33D
D345	54085	<div></div>	54109	D35D
D365	54117	<div></div>	54141	D37D
D385	54149	<div></div>	54172	D39D

32x28 Video Mode

Hex	Dec		Hex	Dec
D080	53376		53407	D09F
D0A0	53408		53439	D0BF
D0C0	53440		53471	D0DF
D0E0	53472		53503	D0FF
D100	53504		53535	D11F
D120	53536		53567	D13F
D140	53568		53599	D15F
D160	53600		53631	D17F
D180	53632		53663	D19F
D1A0	53664		53695	D1BF
D1C0	53696		53727	D1DF
D1E0	53728		53759	D1FF
D200	53760		53791	D21F
D220	53792		53823	D23F
D240	53824		53855	D25F
D260	53856		53887	D27F
D280	53888		53919	D29F
D2A0	53920		53951	D2BF
D2C0	53952		53983	D2DF
D2E0	53984		54016	D2FF
D300	54016		54047	D31F
D320	54048		54079	D33F
D340	54080		54111	D35F
D360	54112		54143	D37F
D380	54144		54175	D39F
D3A0	54176		54207	D3BF
D3C0	54208		54239	D3DF
D3E0	54240		54271	D3FF