

Quick start for Z180 Microprocessor kit

1. Memory layout

00000-07FFF	32k monitor ROM	Common 0
08000-0FFFF	32k RAM	Common 0
10000-17FFF	32k RAM	Bank
18000-1FFFF	32k RAM	Bank
20000-27FFF	32k RAM	Common 1
28000-2FFFF	-	Common 1

1. Input/Output layout

00-3F	Special function registers*	Z180 onchip I/O
40	GPIO1 LED	Debug LED
41	PORT0	Input port
42	PORT1	Digit control
43	PORT2	Segment control
60	SOUND DATA	SAA1099 data
61	SOUND ADDRESS	SAA1099 address
80	LCD command write	Text LCD
81	LCD data write	Text LCD
82	LCD command read	Text LCD
83	LCD data read	Text LCD

*The onchip I/O registers can be accessed with IN0 and OUT0 instructions.

2. Interrupt vectors in page zero are relocated to external RAM started from 0E000.

RST 38H is for monitor return, save the CPU registers to user registers.

For example,

```
08000 3E 01      LD A,1
08002 D3 40      OUT (40H),A
08004 FF        RST 38H
```

After enter the code to memory, test run with key GO, press REG 0, the user register A will be 01.

3. Function keys:

COPY	Copy block of memory: Enter Start, End and Destination used with key + and GO
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REL	Find OFFSET byte: Enter Start, and Destination used with key + and GO
DUMP	Display memory contents on 9600 bit/s terminal.
LOAD	Load Intel Hex file.
REG	Set display user registers. Used with hex key 0-F
PC	Set display address to current program counter
ADDR	Set hex entry mode to address
DATA	Set hex entry mode to data
+	Increment display location
-	Decrement display location
INS	Insert one byte and shift 512 bytes down
DEL	Delete one byte and shift 512 bytes up
TEST	Test 10ms tick, SW1 must set to 10ms tick
GO	Jump from monitor program to user code
USER	For USER experiment
SOUND	Test SOUND chip and HALT LED

*setting the memory location, is available only for physical address from 00000-0FFFF.

Sound test produces musical note followed with noise then HALT the CPU.

4. CPU control keys:

RESET	RESET CPU
INT0	Trigger INT0 pin to logic 0
NMI	Trigger NMI pin to logic 0, return to monitor
INT1	Trigger INT1 pin to logic 0

5. Install or Remove the LCD must be done when the kit is POWER OFF!

6. SAA1099 sound chip is warm under normal operation.

7. R15 and R17 trimmers are volume control for stereo amplifier. Half is preset.

8. Serial port needs CROSS cable RS232.

9. AC adapter should provide minimum +7.5V 500mA. Common AC adapter with +9V 1A is fine. Center pin must be +Positive.

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