

# Z80 V4.0 Jumper Definitions

| Jumper | Function  |
|--------|---|
| SW501  | ORG0 Config – Refer to slides 6-8 on how to setup such switch based on HW configuration   |
| JP12   | MAX jumper. Selects Z80 max frequency<br>Bottom (1-2) selects a MAX freq of 16.384 MHz (works only with the H8-CF-Card adapter)<br>Top (2-3) selects a MAX freq of 10MHz (default)                            |
| JP13   | RBAT Jumper. Insert jumper to power on the RTC circuit. Remove jumper if replacing RTC IC.  |
| JP2    | CHARGE Jumper. Insert to recharge NiMH batteries<br>Remove jumper if using LIR2032 or CR2032 batteries  |
| JP17   | H37_INT jumper.<br>Left (1-2) selects “H37”, when present on the H8 bus<br>Right (2-3) selects “NO H37”, when not present on the H8 bus.<br>Set JP17, JP200, and JP201 as a consistent set: “H37” or “NO H37” |
| JP200  | H37 jumper.<br>Left (1-2) selects “NO H37”<br>Right (2-3) selects “H37”   |
| JP201  | H37 jumper. Insert jumper if H37 is present on the H8 bus, otherwise leave off.   |

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| Jumper | Function   |
|--------|--|
| JP20   | RESET jumper. Selects source of power-on RESET signal to CPU.<br>Left (1-2) "FP": Use Front Panel reset circuit. Use only for debug and it requires a front panel reset to sync the circuit.<br>Right (2-3) "LM": Use TL7705 voltage monitor reset signal (default).   |
| JP5    | NMI Jumper. Default OFF. It is an H89 feature.   |
| JP6    | H17-SEL Jumper. Selects polarity of H17 floppy side select signal on buss pin 18.<br>Left (1-2): normal polarity (default position)<br>Right (2-3): inverted polarity  |
| JP7    | SEL24 Jumper. When inserted BIORQ signal is present on SL-24 H8 pin. ON with H8 Storage Controller, 82C55 PPI, or AM9511 APU boards that can use the Z80 IORQ signal. Otherwise, OFF.  |
| JP21   | BANK_SEL_L jumper. This is for future Z180 use. Do not install a jumper here.  |
| JP19   | INT jumper for Front Panel interrupts.<br>Bottom (1-2) "EI": Enables FP 2ms interrupts (default)<br>Top (2-3) "DI": Disables FP 2ms interrupts   |
| JP8    | D2MS Jumper. Controls 2ms H8/H89 Timer.<br>Left (1-2) "OFF": Only use the H8 front panel 2ms timer<br>Right (2-3) "ON": Enable H89 2ms timer. Needed to boot CP/M3 and to run board in a standalone configuration (default). In this position, the H8 Z80 V4 board emulates an H89 configuration, so no front panel is needed. |

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|--------|--|
| JP30   | C2-C1 jumper: When installed, sends 2 MHz clock to the H8 backplane regardless of CPU speed. This is to support the new H8-Front-Panel V1.2 if users want to sync with the CPU clock. Default is “Do not insert”.  |
| JP1    | EPROM/EEPROM jumper:<br>27C256 EPROM: jumpers on 2-3, 4-5<br>28C256 EEPROM: jumpers on 1-2, 3-4. To write protect, remove jumper on 1-2  |
| JP300  | ROMDIS Jumper – When jumper inserted drives /ROM_Disable signal into the H8 bus. Not inserted for normal operation.  |
| JP11   | ROM-DIS Jumper.<br>Right (2-3): PAM37 can disable ROM (default)  |
| JP15   | RAM_DIS jumper. (see also JP18)<br>Left (1-2) “ENA”: Enables onboard RAM (default)<br>Right (2-3) “DIS”: Disables onboard RAM when using external RAM on the H8 Bus. Note: No need to remove internal RAM from board.  |
| JP18   | RAM_CONFIG jumper. (see also JP15)<br>Left (1-2) “PCB”: Select when there is no memory on the H8 bus and using the On-Board RAM.<br>Right (2-3) “H8-BUS”: Select when on-board RAM has been disabled and main memory is on the H8 Bus. Default configuration when using the H8-512KB memory board. |

# Z80 V4.0 Jumper Definitions

| Jumper | Function  |
|--------|---|
| JP9    | <p>DUART_Disabled jumper</p> <p>Remove jumper to disable both UARTs/USB. This is required if using the H8-4 serial board/H8-USB boards.</p> <p>Insert jumper for normal operation (H8-4 removed or reconfigured to another I/O ports).</p>  |
| JP10   | <p>IOTERM_DIS Jumper – Insert jumper to enable 350Q serial console terminal on P603</p>   |
| JP16   | <p>DUART_OSC jumper. Selects clock source for serial port baud rate.</p> <p>Bottom (1-2) “3.68MHz”: selects 3.68MHz oscillator at U4 - use only with specially modified software.</p> <p>Top (2-3) “1.8MHz”: selects 1.84MHz oscillator at U113. This is for standard Heath software (default).</p> |
| JP4    | <p>320Q/340Q Jumper for second serial port (on P604)</p> <p>Top (1-2) “320Q”: selects serial port on 320Q (default)</p> <p>Bottom (2-3) “340Q”: selects serial port on 340Q</p> <p>Removing jumper disables on-board second serial port</p>   |
| JP3    | <p>Enables /INT5 for second serial port (on P604). Jumper inserted for normal operation</p>   |
| JP14   | <p>SERL_1 (USB) Jumper.</p> <p>Removed to disable USB VDIP1 on ports 330Q-332Q</p> <p>Jumper inserted for normal USB operation (default operation)</p>  |

# Z80 V4.0 Jumper Definitions

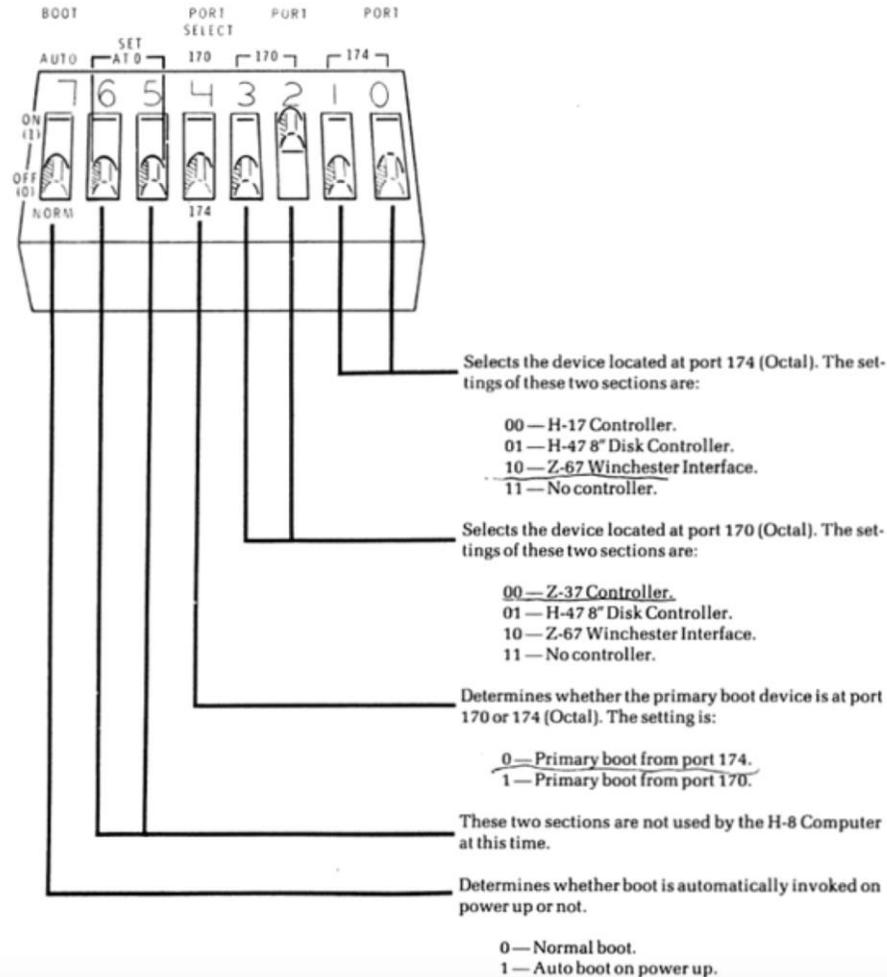
| Jumper    | Function   |
|-----------|--|
| JP22,JP23 | +8v jumpers.<br>Install jumpers here to bypass onboard voltage regulation if you are using an external PC power supply to provide +5v direct to the H8 bus. Warning: Installation of such boards on a stock H8 backplane will burn out the board if such jumpers are not removed prior to installation.<br>If you are using the Pololu buck/boost voltage regulators at U24 and U27 you do not need these jumpers. |
| JP26,JP27 | +18v & -18v jumpers.<br>Install jumpers here to bypass onboard voltage regulation if you are using an external PC power supply to provide +12v and -12v direct to the H8 buss.   |
| JP24      | RD_L jumper. Used for very fast CPUs if serial I/O problems are encountered.<br>Right (1-2) : default for most CPUs<br>Left (2-3): bypasses delay flip-flop U112A. Use for very fast CPUs.   |
| JP25      | WR_L jumper: Used for very fast CPUs if serial I/O problems are encountered.<br>Left (1-2) : default for most CPUs<br>Right (2-3) : bypasses delay flip-flop U112B. Use for very fast CPUs.  |

# Z80 V4.0 SW501 Setup – PAM37

## Auto Operation

If section 7 of switch SW1 on the Z80 CPU board is set to **1**, the system will automatically boot from hardware unit **0** on the primary device when you turn the power on or perform a master clear (by pressing both the **0** and the **D** keys).

Note: This feature is only to boot from Hard Drives. On floppy drives, the diskette could be accidentally erased during the power-on sequence inside the Computer.



# Z80 V4.0 SW501 Setup

Douglas Miller ROM h8mon2-v2.0b24.rom

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## DipSwitch definitions (H8-SW1):

| 7           | 6                               | 5 | 4 | 3                    | 2 | 1                    | 0 |
|-------------|---------------------------------|---|---|----------------------|---|----------------------|---|
| <u>Baud</u> | <u>Default Boot Device</u>      |   |   | <u>Port 78H/170Q</u> |   | <u>Port 7CH/174Q</u> |   |
| 0 = 9600    | 0 0 0 = MMS77316 5"             |   |   | 0 0 = H37            |   | 0 0 = H17            |   |
| 1 = 19.2K   | 0 0 1 = MMS77316 8"             |   |   | 0 1 = H47            |   | 0 1 = H47            |   |
|             | 0 1 0 = Device at 7CH/174Q      |   |   | 1 0 = H67            |   | 1 0 = H67            |   |
|             | 0 1 1 = Device at 78H/170Q      |   |   | 1 1 = unused         |   | 1 1 = unused         |   |
|             | 1 0 0 = VDIP1                   |   |   |                      |   |                      |   |
|             | 1 0 1 = GIDE                    |   |   |                      |   |                      |   |
|             | 1 1 0 = WizNet                  |   |   |                      |   |                      |   |
|             | 1 1 1 = Use config setup values |   |   |                      |   |                      |   |

# Z80 V4.0 SW501 Setup

Terry Gulczynski ROM (WIP)

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| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|---|---|---|---|---|---|---|---|
|   |   |   |   |   |   |   |   |
|   |   |   |   |   |   |   |   |