

H8-17

The H8-17 is a copy of the original WH8-17 Controller card by Heath Company. The IC identifiers and circuit board traces are pin compatible with the original card and debugging can be performed using the original Heathkit WH8-17 schematic.

NEW FEATURES

This card includes the ability to clock it from an onboard 2.048mhz oscillator or from the H8 bus (pin 22 - as the original card did). This feature can be toggled using the jumper on the card above the oscillator.

Another feature on this card is a jumper to enable/disable the ORG0 compatibility mode and a jumper to select which H8 bus pin (18 or 24) to use for side select if a H8-8-8 or HA8-8 Extended Configuration card is used. These two jumpers are located on the upper right portion of the card. When the card is configured for ORG0 support the onboard ROM and RAM are not needed and can be removed from the card. Be sure to use the XCON-8 front panel ROM (part #444-70) which is included with the H8-8-8 or HA8-8 Extended Configuration card. This ROM should be installed on the CPU board - see the instructions for the Extended Configuration card for details.

There are diagnostic LEDs on the left side of the card. These LEDs are completely optional and not required for the card to operate. The LEDs are labeled as follows:

- PWR - Shows that card is getting +5V.
- DS0 - Device 0 is being selected
- DS1 - Device 1 is being selected
- DS2 - Device 2 is being selected (not supported with the H17 but added here for testing purposes).
- MON - "Motor On" signal to the drives
- TR0 - Selected drive is at track 0
- WRG - Write Gate enable (writing is enabled for the selected drive)

NOTE: You might want to install the two regulators on the aluminum heat sink support and run wires to the PCB like with the original Heathkit cards. I've noticed that they get really hot after continued use.

HARD TO FIND PARTS

The S2350P can be ordered new by going to the following website and doing a search for the part number:

<http://www.electronic surplus.com/commerce/index.jsp?czuid=1248811538951>

Connectors can be found in a couple places depending on which type you prefer to use. The original Molex 25 pin connectors can be ordered from Heiland electronics at the following link. Search for part #22-16-2251.

<http://www.heiland.com/>

The H8-17 card also accepts the SAMTEC connector (BCS-126-L-S-HE) which can be ordered from Newark electronics, part #11P3345. This is for a 26 pin connector but the last pin can be clipped off if desired.

<http://www.newark.com/>

THE 1K ADAPTER

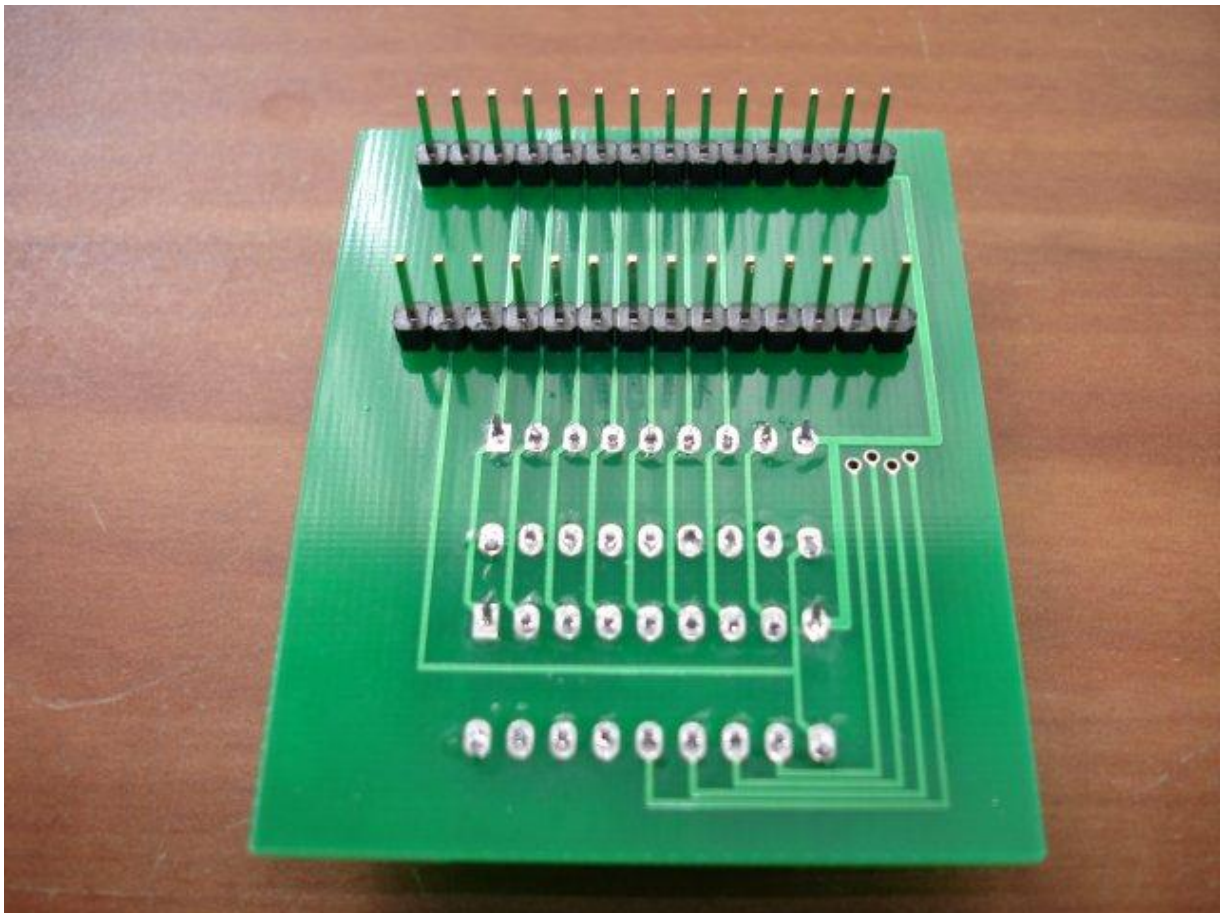
If you are installing the H8-17 in an H8 without the extended configuration card you'll need to use the 1K Adapter. This adapter has room for a couple 2114 static RAM chips. The adapter will convert the RAM signals from the AS6C6264 I/O address to those needed for the 2114s.



Top photo of the assembled 1K Adapter

THE 1K ADAPTER (cont'd)

Why a 1K Adapter? When I designed the H8-17 I tried to modernize a few of the hard to find components. My design used a readily available 8K chip with the appropriate address lines grounded so that only 1K is used. On paper it seemed like it would work but in real life it didn't. I could not get the controller memory test to pass when using the 8K chip. To fix it I designed this 1K adapter that routes the address lines to a pair of 2114s which is exactly how the original H17 controller worked.



Bottom photo of the assembled 1K Adapter

THE 1K ADAPTER (cont'd)



The 1K Adapter plugs into the socket for the onboard RAM.

If you have any questions please contact me at the following e-mail address.

Les Bird (lesbird@bellsouth.net)

This photo shows the fully assembled H8-17 controller card. Since this card is being installed in a system with the Extended Configuration card the onboard ROM and RAM chips are not required.

