

# PA-H8/536-84(Z) Data Sheet

84 pin PLCC socket/32 pin DIP 0.6" plug

## Supported Device/Footprints

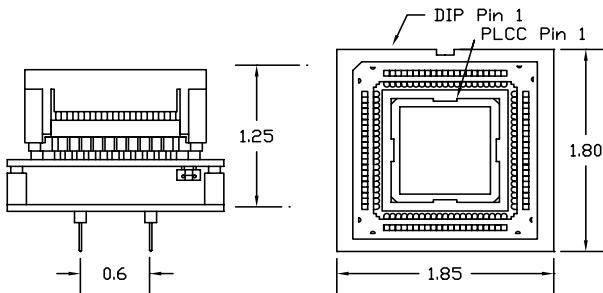
These adapters allow EPROM programming of Hitachi H8/536 devices in their PLCC or LCC packages on 32 pin DIP programmers.

| Mfgr    | Device |             | Footprint |            |
|---------|--------|-------------|-----------|------------|
|         | Device | Package     | Device    | Plug       |
| Hitachi | H8/536 | PLCC or LCC | 27C010    | 32 pin DIP |

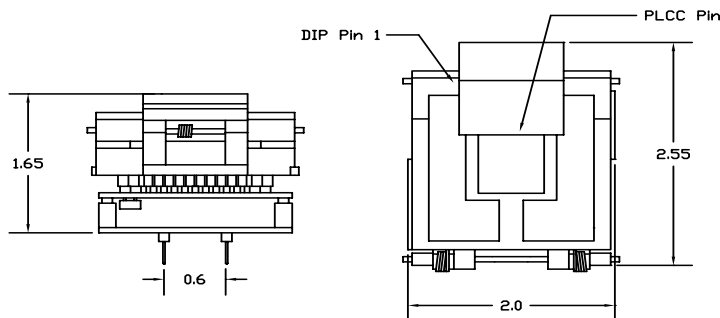
These adapters are direct replacements for Hitachi programming adapters. See the following cross reference.

| LSC adapter   | Test skt   | Device package                                    | Hitachi adapter          |
|---------------|------------|---|--------------------------|
| PA-H8/536-84  | Auto-Eject | PLCC and CLCC                                     | HS538ESC02H<br>PLCC only |
| PA-H8/536-84Z | Lidded-ZIF | PLCC and CLCC. LCC with shim installed in socket. | HS538ESG02H<br>LCC only  |

## Adapter Dimensions



PA-H8/536-84



PA-H8/536-84Z

## Adapter Parts & Part Numbers

The following chart shows the various socket and board part numbers that make up these adapters.

| Adapter       | Socket | Top Board  | Bottom Board |
|---------------|--------|------------|--------------|
| PA-H8/536-84  | 84-103 | H8/53X-84  | H8/53X-32    |
| PA-H8/536-84Z | 84-401 | H8/53X-84Z | H8/53X-32    |

## Adapter Construction

The adapter is made up of 3 sub-assemblies. They assemble via connectors making the adapter modular. This way the sub-assemblies can be replaced when they wear out.

When disassembling the adapter take care not to bend the pins. When reassembling the adapter note the pin 1 indicators to align the parts correctly.

### Test Socket

PLCC Auto-Eject test socket:

Yamaichi Part #: IC120-0844-103 LSC Part #: 84-103

ZIF Lidded socket:

Yamaichi Part #: IC51-0844-401 LSC Part #: 84-401

### H8/53X-84(Z)

Accepts the test socket and connects to the 32 pin 27C010 header

### H8/53X-32

Connects the top board to the programmer.

## Shims for the ZIF Socket

The ZIF socket will accept the LCC package as well as the PLCC and CLCC packages. Since the LCC package is thinner than the PLCC a shim must be installed in the ZIF socket to provide proper contact pressure.

LCC thicknesses vary. For any particular LCC package design, the shim thickness will need to be determined. The ZIF socket was designed to accommodate the PLCC package which is 0.170" +/- 0.005" thick.

If you need assistance with shims please call us. We will be happy to help you out.

## EPROM Security

The Hitachi H8 family provides EPROM security. By programming one security location four EPROM bytes are protected. After programming, the protected bytes read 00h and cannot be programmed.

**To program security locations** install the security jumper and program the device; the data value is ignored. The security jumper is marked SW1 on the top board. Remove the jumper to allow EPROM programming.

SW1 jumper setting

| Pins | Mode | Function           |
|------|------|--------------------|
| 1-2  | ON   | Program Lock Bits  |
| None | OFF  | Program/Read EPROM |

**To secure the whole device** it is simplest to install the jumper and program the whole device to 00.

**To secure one block of EPROM** (4 bytes) program any byte of the block with the security jumper installed. The block addresses begin at 0 and are arranged at 0-3, 4-7, 8-B, C-F and so on through all the memory.

**The security locations are EPROM.** On erasable devices they are erased when the EPROM is erased. On One-Time Programmable devices they cannot be erased.

## EPROM Address Mapping

The H8's EPROM is at the same address for MCU mode (normal execution) and EPROM programming. The valid EPROM address is as follows.

| Device | EPROM size | EPROM address | MCU address |
|--------|------------|---------------|-------------|
| H8/536 | 62K bytes  | 0000-F67F     | 0000-F67F   |

The H8/536 has less EPROM than the 27C010. Addresses from F680-FFFF cannot be programmed and will read as 00. For addresses above 1,0000H, A16 is ignored and locations between 0,0000-0,FFFF will be accessed.

## Adapter Wiring

The following chart shows the connections from the PLCC device to the adapter's DIP plug.

| SOCKET | PLUG | SOCKET | PLUG |
|--------|------|--------|------|
| 1      | -    | 43     | 27   |
| 2      | 16   | 44     | 24   |
| 3      | -    | 45     | 23   |
| 4      | -    | 46     | 25   |
| 5      | -    | 47     | 4    |
| 6      | -    | 48     | 28   |
| 7      | 3    | 49     | 29   |
| 8      | 2    | 50     | 22   |
| 9      | 31   | 51     | 32   |
| 10     | -    | 52     | SW1  |
| 11     | -    | 53     | -    |
| 12     | -    | 54     | -    |
| 13     | -    | 55     | 32   |
| 14     | -    | 56     | -    |
| 15     | -    | 57     | -    |
| 16     | 32   | 58     | -    |
| 17     | 16   | 59     | -    |
| 18     | 16   | 60     | -    |
| 19     | 16   | 61     | -    |
| 20     | 16   | 62     | -    |
| 21     | 1    | 63     | -    |
| 22     | 24   | 64     | 16   |
| 23     | -    | 65     | 16   |
| 24     | 16   | 66     | -    |
| 25     | 13   | 67     | -    |
| 26     | 14   | 68     | -    |
| 27     | 15   | 69     | -    |
| 28     | 17   | 70     | -    |
| 29     | 18   | 71     | -    |
| 30     | 19   | 72     | -    |
| 31     | 20   | 73     | -    |
| 32     | 21   | 74     | 32   |
| 33     | 12   | 75     | -    |
| 34     | 11   | 76     | -    |
| 35     | 10   | 77     | -    |
| 36     | 9    | 78     | -    |
| 37     | 8    | 79     | -    |
| 38     | 7    | 80     | -    |
| 39     | 6    | 81     | -    |
| 40     | 5    | 82     | -    |
| 41     | 16   | 83     | 16   |
| 42     | 16   | 84     | -    |

VCC (32) to GND (16) .1uf bypass  
SW1 security jumper