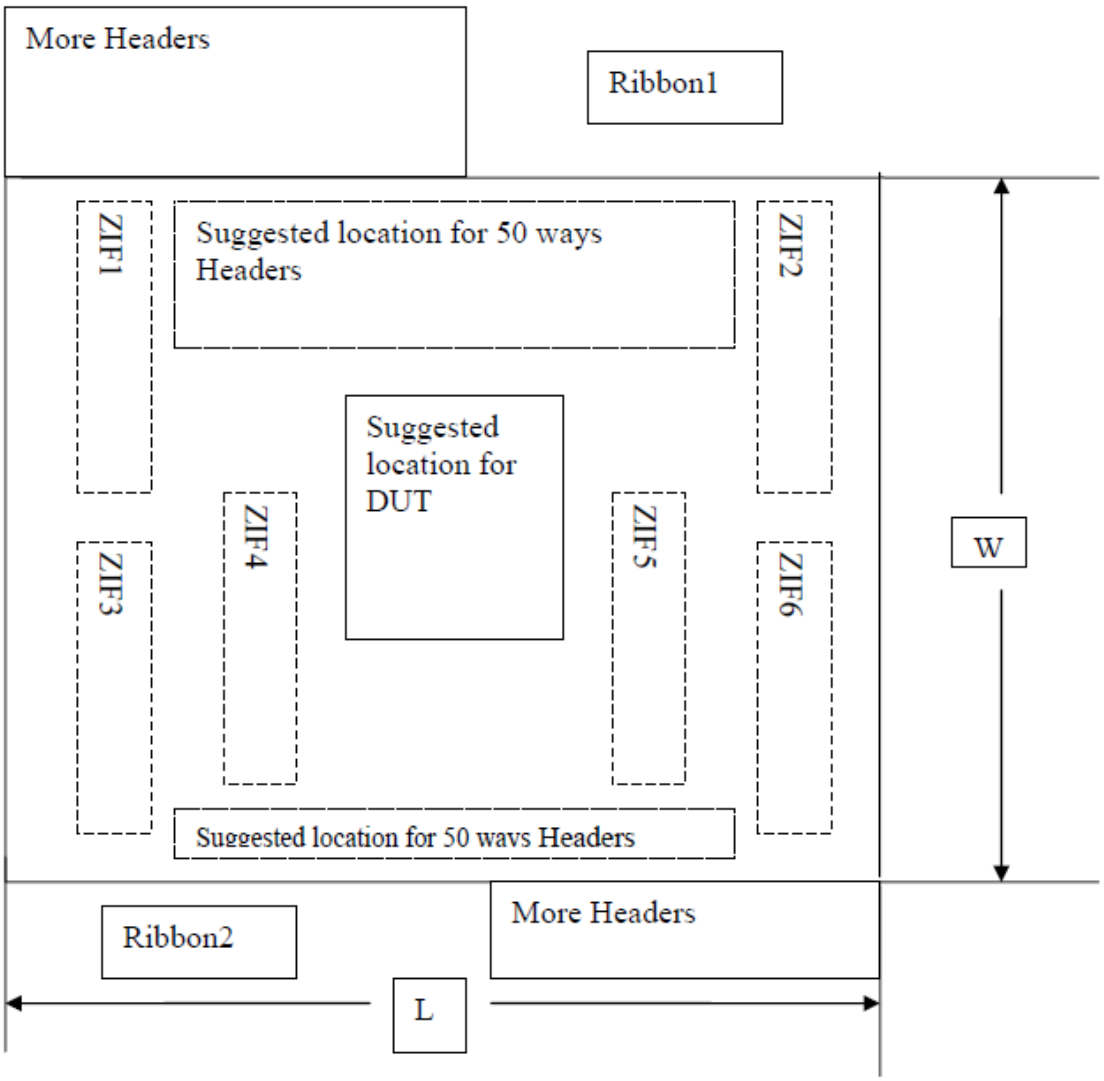
Daughterboard instructions

Fig. 1 – Layout diagram of the daughterboard – DUT side (not drawn to scale)



Note:

1. Fig. 1 is not drawn to scale.

2. In Fig. 1, the rectangular portion confined by length L and width W is the essential part of the daughter board with 6 groups of pins for the 6 ZIF sockets (see **loadboard_64pin.pdf**). The suggested location of the DUT, and the connection Headers (See item 7.) are also indicated.

3. The minimum L is 9.2 inches to cover all the ZIF sockets. There is no upper limit of L.

4. The minimum W is ~6 inches to cover all the ZIF sockets. The maximum W is 7 inches to clear off the ribbon cable connections on the generic board (The location of the ribbon cable connections are indicated in the plot by Ribbon1 and Ribbon2). It is important that in the case W is larger than 6 inches the space between the top two ZIFs and the top edge should approximately equals the space between the bottom two ZIFs and the bottom edge.

5. In the case more space is required in the daughter board it can be extended in the horizontal direction without limit, or extended in the vertical direction in the region as indicated by "more Headers" in the plot. As mentioned above, locations labeled as Ribbon1 and Ribbon2 are occupied by the ribbon cable connections on the generic board, so that they cannot be used for any part of the daughter board.

6. 64 (sixty four) digital pins + all the analog option (WGA, WDA, WDB) + 8 DPS (device power supply) channels are connected via 6 ZIFs installed on the generic load board (see **loadboard_64pin.pdf**). To make these connections, pins should be soldered on the daughter board. All the pins should be ~5 mm long on the soldering side. It is suggested that such single line Male Header Pins as ALTRONICS part number 5430 should be used. Refer to **loadboard_64pin.pdf** for the details such as positions, dimensions and netlist, etc.

7. Further digital pins (up to a total 320) and DPS pins (up to a total of 16) can be routed using 50 way ribbon cable and Bump Polarised Sockets (RS stock No 461-247). Each socket connects 16 digital pins and 34 grounds (or 4 DPS channels). Digital channel and DPS channels cannot be integrated into one socket - they have to be on two different sockets. The ribbon cables and Sockets will be provided. However on the daughter board the digital pins need to be routed and connected to 50 ways Male Headers (side latch, RS stock No 461-073), which also need to be installed on the same daughter board on the DUT side. It is recommended that the Headers should be as close to the DUT as possible, and, at the same time, as close to the ribbon cable connections as possible. Once the design of the daughter board has been finalized the location of these Headers need to be advised ASAP so that we could make appropriate adjustment for the lengths of the ribbon cables.

8. The routing netlist of every Male Headers on the daughter board follows (all the grounds must be connected together on the daughter board):

ground 1 3 4 6 7 9 10 12 13 15 16 18 19 21 22 24 25 27 28 30 31 33 34 36 37 39 40 42 43
45 46 48 49 50
digital pins 2 5 8 11 14 17 20 23 26 29 32 35 38 41 44 47

The netlist between each individual Header pin and the Tester channel can only be worked out after the design of the daughter board has been finalized (This netlist is used for software setup only). The layout of the Male Header is show in Fig. 2 (also not to scale).

9. It is suggested that all the Male Headers should be perpendicular to all the ZIFs. It is also suggested that all the Male Headers below DUT in Fig. 1. should have pin 1 at left side (pin 1 at the left end for every Header), while all the Male Headers above DUT in Fig. 1 should have pin 1 at the right side (pin 1 at the right end for every Header). The Headers are arranged in such a way to make the connection ribbon cables as short as possible.

Fig 2. Definitions of the pin numbers in the Male Header (looking from the soldering side).