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Severity: **Recommended**

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Slot Keying for the Slot Board

In a conventional MSX system a cartridge can only be inserted in one way. Each cartridge has a small notch in the back as seen in the figure below (fig. 1). In the system's slot there is a ridge that fits exactly in this notch (fig. 2). Because of these attributes, the cartridge can only be seated with the correct orientation.



Figure 1. Notch in the back of a cartridge



Figure 2. Ridge in the system's cartridge slot (above the red arrow)

The GR8BIT's Slot Board does not have such a ridge, and therefore it is possible to insert a cartridge the wrong way. Doing so can possibly (and probably will) irreparably damage the cartridge because the -12v and +12v

power lines will get connected to address lines and most ICs cannot handle this kind of misuse.

The position of the needed ridge is very important and needs to be very accurate and sturdy to be effective. It is possible to prevent wrong insertion by using another property of an MSX cartridge: its edge connector is **not** located at its center. Figure 3 shows the marked 'keep-out' area where the cartridge should not be allowed to be.

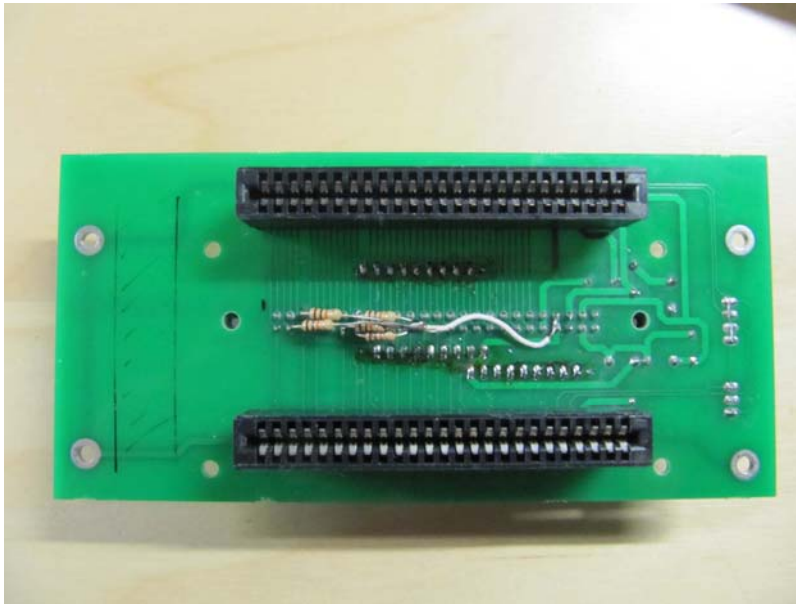


Figure 3. Keep out area next to cartridge slot



Figure 4. Wooden 'slot key'

I choose to use a small block of wood I had lying around, to create a wooden 'slot key' (fig. 4). As you can see the cartridge cannot be inserted the wrong way, because it will no longer fit (fig. 5).

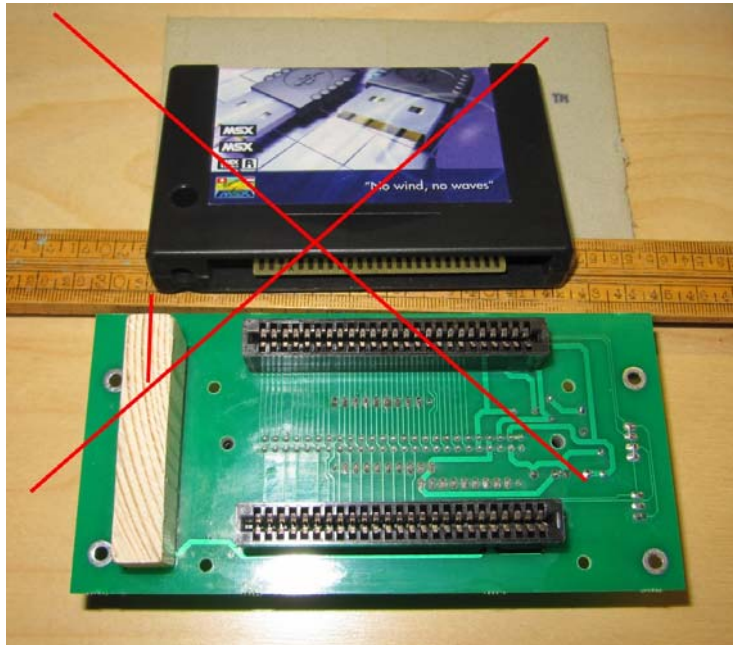


Figure 5. Cartridge does not fit the wrong way