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Chapter 1 - History

This history only describes the history of the slotexpander in Holland. We know about the NEOS slotexpander in Japan, but other slotexpander involvements in Japan are unknown to us. In Holland only one working slotexpander has been released (commercially) in all those years.

It started in 1991 by *R. Stevens* from the MSX usergroup in Tilburg, Holland. He had designed a slotexpander with some minor errors. On the fair in Tilburg *Martin Kruit* from the formerly well known firm *MK Public Domain* bought the exclusive rights on this expander.

A second version was designed, but a prototype was never build. *MK Public Domain* made the prints, bought all the parts needed and asked *Digital KC* to assemble the prints to a working slotexpander. He had some trouble with it due to some errors in the design. Because of the Zandvoort '91 deadline he did some rough bug fixes. 25 of this first design were sold at the Zandvoort fair.

A version 3.0 was designed and prototyped end '91. This version was released and later a version 3.1 was made which could not only act as a slotexpander but also could be used to lengthen the cartrdigeslot.

In '95 the design was made public by the Dutch computermagazine *MSX Computer & Club Magazine*. Although the design was now known by almost everyone nobody seemed to be interested to make his own slotexpander. *Thom Manders*, a very fanatic MSX user from Holland, got all the films etc. to build slotexpanders for everyone who still needed one. He asked *Henrik Gilvad*, a top MSX designer from Denmark, to take a look at the expander.

This took him some time. And a few at *MSX Club Gouda* needed a slotexpander too. What shall we do, wait for Thomas or build one like the design which was published ?
We decided to make our own design, strongly based on the design published, but with some minor changes.

By the time we had our prototype working a call from *Sunrise* came. They are the ones who should distribute the slotexpander made by Thomas Manders, but had no production capacity for it, because of the succes of the Graphics 9000 and the Moonsound. "*Are you interested to build slotexpanders ?*", was their question. We were. We called our prototype version 5.0, tested it thouroughly and ordered all the parts we needed.

You now have probably already the expander in your computer so you know we have done a fine job.

Chapter 2 - Usage

A warning to start with: never insert or extract a cartridge while your computer is on. You could destroy both your computer and cartridge doing so ! Also never insert the slotexpander in your slot while your computer is still on.

2.1 - Power

The MSX slots are secure up to 300 mA. The slotexpander does not have a separate power supply so the total of all cartridges in the expander, including the slotexpander itself, should not use more than 300 mA. This is a theoretical limit. In practice you can insert almost every cartridge you want. But be carefull, an old (big in size) memory mapper uses a lot more than the new (small) ones. Two or more new memory mappers should not give any trouble at all, while two or more old memory mappers could give all kind of troubles.

If you see slight disturbances of your screen on the monitor or tv which are normally not there, you have inserted to much cartridges in your expander.

Also be carefull with the Korean cartridges we (MSX Club Gouda) and others sold some years ago. Some of these, mostly the megaroms, have up to 8 eproms on the print. Meaning this cartridge is a heavy power consumer. These cartridges better could be placed right in the slot of the computer.

2.2 - On/off

The slotexpander expands your slot into 4 subslots. These are numbered from 1 to 4. The one which is closest to the switches (this is the front) is number 4, the one on the other side is 1. The ones between are 2 and 3.

Every slot can be turned off. This done by the switches in front. To the right they are on, to the left off. The I/O ports are still working in the off position. So you should not insert cartridges which use the same I/O ports. This might give trouble, like many of you have probably experienced already with the Philips modem and the SCSI interface.

Although the subslots are numbered from 1 to 4 on the expander, the computer really sees them as subslots 0 to 3. For example if your cartridgeslot is slotnumber 3, the subslots become slot 3-0, 3-1, 3-2 and 3-3.

Chapter 3 - Problems

Because not every programmer/firm was committing to the MSX standard as strong as they should be, some cartridges might give problems. This chapter is not pretending to give full solutions for all problems, but it tries to explain some general problems and some cartridge specific problems.

3.1 - General Problems

Some cartridges are sized that big that they occupie two slots in the expander. A solution is to place these cartridges in the frontslot of the expander. Another solution is to place them in an original (computer) cartridgeslot.

3.2 - Cartridge Specific Problems

Solid Snake
This program will only work within a primair slot, but also works fine when inserted in slot 1 of the expander and no RAM cartridge is in the expander.

Modem NMS12xx/Miniware
Works fine in the expander, even if the slot is off. The reason for working even while the slot is off, is because off using only the I/O ports.

FM "stereo" PAK
The internal software of this FM PAK is not working when the cartridge is in the expander, unless a RAM cartridge is inserted in the expander.

Music Module
Works fine in the expander, even if the slot is off. The reason for working even while the slot is off, is because off using only the I/O ports. Only the internal program is not working when the slot is off.

3.3 - Tips

➢ A few cartridges which are not working in a secundairy slot (like in the expander) will work fine if put in secundairy slot 0 (slot 1 in the expander).

➢ Because of some cartridges having problems when started in RAM from the expander, RAM cartridges are preferred to be inserted in a normal cartridgeslot.

➢ If a cartridge is not working in the expander, try some different positions and finally when nothing appears to work reserve a normal cartridgeslot for this cartridge.

SLOTEXPANDER
version 5.0 - 1995