

Ok, second and final part of the technical discussion about the SGM.

For sound the SGM offers an extra PSG, the AY-3-8910. It has similar sound capabilities as the CV PSG (SN76489), however it has a few advantages. Frequency range is much improved (both extremes of the human audible spectrum), and it offers volume envelopes. The AY-3-8910 was used by a large number of arcade games around 80-83, and was also featured on such computers as Atari ST and MSX.

The 3 sound channels of the SGM are then mixed with the CV PSG and output together. With that we now have 6 sound channels to play with, plus noise.

Differently of the SGM extra RAM, the AY-3-8910 is always active, so no need to activate it. I am not going to discuss the AY-3-8910 as tons of information can be easily found searching the web. The only information we need here is how to access the chip.

The SGM AY-3-8910 has been mapped to I/O ports 50h to 52h. 50h is the control port, used to set the register #. Port 51h is used to write data, while port 52h is used to read.

Another interesting fact about the AY-3-8910 is that all the registers can also be read. That is another way to check for the SGM, you can for example write data to any of the frequency register and read it back to see if the PSG is present.