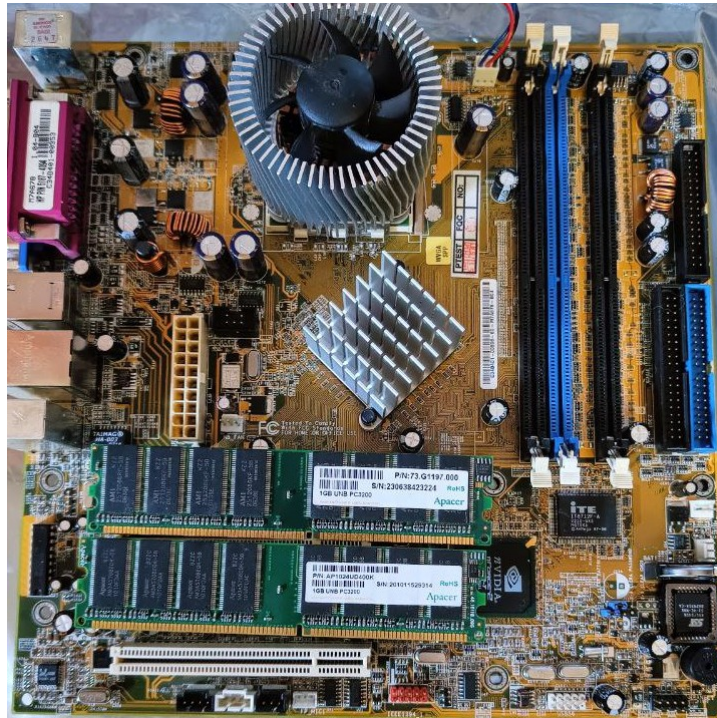Modifications to ASUS A7N8X-LA (OEM).

In my case the motherboard came with Compaq Presario 6000 (model 6695fi).

BIOS version 3.09, CPU Athlon XP 2600+ (Thoroughbred B).

This is a modified motherboard, the test setup consists of the board itself, 2 RAM sticks Apacer DDR400 1GB and the original CPU. Video card is original Compaq\HP GeForce4 MX440-8x.
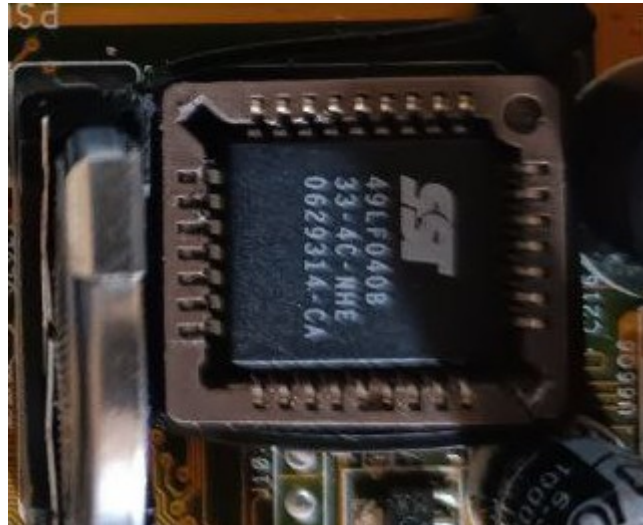

Discoveries.

The North Bridge of the Motherboard is… SPP! It does not have any kind of internal GPU, like IGP. So, the onboard VGA connector is connected to nothing, my guess, this revision of A7N8X-LA has a standard PCB, but the NB differs depending on the HP's desire. =)

The heatsink is glued to the chip with some pink filth, it's almost impossible to remove it without harm to the NB. Everything gets better if you make radiator hot (45-50 degrees C), then it can be removed safely. I used the same heatsink with good thermal compound.
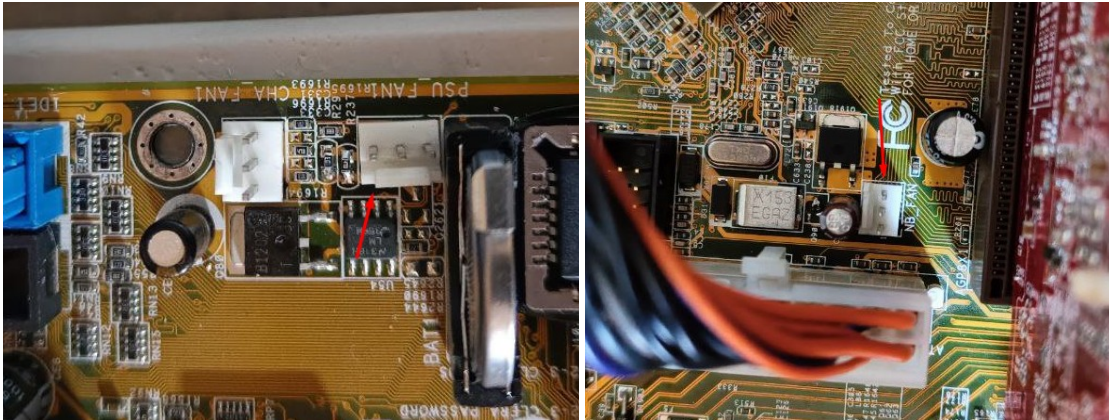
Modifications.

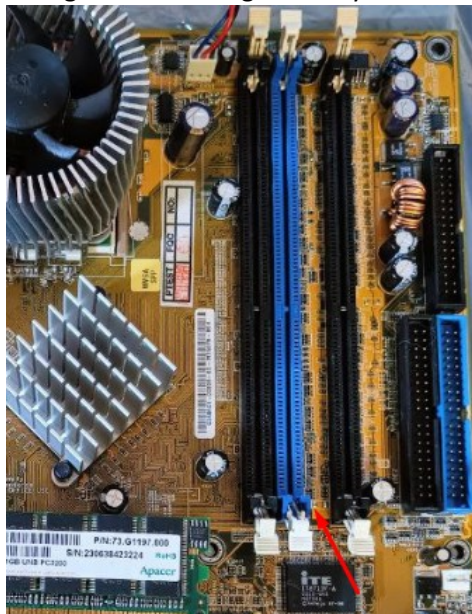1) The soldered BIOS is replaced with one in a «crib» for more comfortable BIOS flashing and tests.

The original BIOS chip is SST 49LF040, this one is 49LF040B, it's fully compatible.

2) Absent fan connectors soldered, they do not support speed control, but are located very nicely for adding more fans into the Compaq or other case. Also, the fan can be installed to cool the NB, it's very hot.
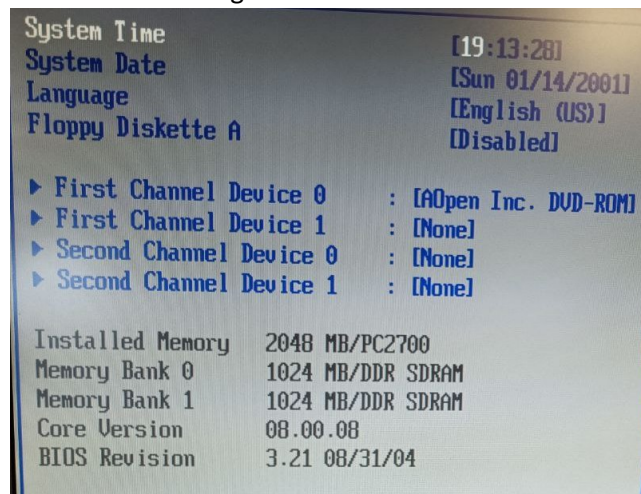

3) Absent RAM slot is soldered to the motherboard, since the voltage for DDR is tested on the missed pins, and it's OK. I supposed, that the missing slot is working and only needs to be soldered on.

Tests.

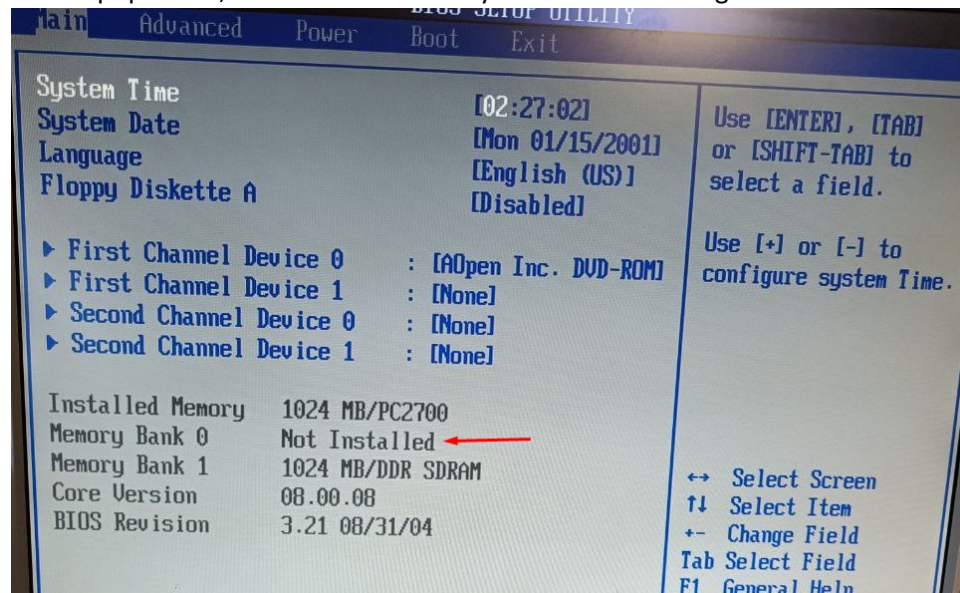The test bench configuration is the following:

BIOS is flashed with the external programmer, since the HP flasher can corrupt the update process and the system can not POST any more.

Memory test version: v2.11.

Symptoms with 1 and 3 memory slots populated: random errors or hangs in MemTest, unstable Windows XP boot, errors during Windows XP startup process, corrupted Windows XP installation process and e.t.c. Depends on memory modules vendor, the nForce2 is itself is very cranky, but in case of this motherboard, it can fail with the memory modules tested OK in another nForce2 board. The errors are intermittent, one time the memory test can succeed, but the second or third run will fail. As a test I flashed ASUS A7N8X-VM BIOS into this board, and it shows memory checksum errors during POST when using 1 and 3 slots and does not boot at all. By the way, the A7N8X-LA BIOS works with memory SPD and 400MHz, but is extremely slow in POST, CMOS and boot. Not recommended.

If slots 2 and 3 are populated, the HP BIOS sees only 1GB. But POST diagnostic screen detects 2GB.

Windows XP and any kind of Memory Test detects 2GB, obviously. =)