**Commodore VIC-20: Super Expander II Rev. 0**

**Testing**

# Test Setup

The tests were conducted with a VIC-20 (ASSY 250403 Rev. D) and a Super Expander II cartridge (Rev. 0) with 3k of RAM (6 pcs of TESLA MHB 2114) and up to two 27C512 EPROMs.

# Test Execution

## Super Expander Software

First, the original Super Expander Software from zimmers.net and the VIC-MON for $B000 were programed to an EPROM. These two programs fit into one 8k memory bank, since the Super Expander software is a 4k software. The EPROM was inserted the in IC1 socket and (JP1) was set to ($A000-$BFFF).

The cartridge was inserted into the VIC-20 and the computer was switched on. It booted normally and 6519 Bytes Free were reported. The Super Expander requires bytes in RAM, so this is correct.

The function keys produce some of the additional Super Expander instructions. A short program, which is using those instructions, was executed successfully.

* **Function of RAM and EPROM IC1 with and the Super Expander Software verified.**

SYS11\*4096 (which is $B000) started the VIC-MON.

* **Additional test.**

## RESET Button

The RESET button (SW1) was pressed. The VIC-20 rebooted properly.

* **RESET button verified**

## VIC-20 Diagnostic Software

The software (PAL) also origins from zimmers.net. It was programmed into the 2nd 8k of the said EPROM, a different version of this software (NTSC) was programmed to the 3rd 8k.

The jumpers on JP3 were set to the 2nd 8k (A15..13: set set open), JP1 remained at .

All RAM except the lowest 1k (IC3/4) was removed.

The diagnostics software started and executed properly (together with the VIC-20 diagnostics harness). For the 2nd version of the diagnostic software, JP3 was set to the 3rd 8k bank (A15..13: set open set). This software executed properly, too.

* **Bank select (000, 001, 010) on JP3 verified**

## Game Cartridge Donkey Kong

This game is a 16k game and requires both EPROMs.  
The software for $A000 was programmed in a fresh EPROM, which was inserted into IC1. JP1 remained at . The other part of the software, which is located at $2000 was programmed into another fresh EPROM, which was then inserted into the IC2 socket. JP2 was set to . All jumpers on JP3 were set.

The software started properly and the game could be played.

* **EPROM IC2 with verified**

## Game Cartridge AE

The software origins from zimmers.net. It consisted of two images, one for $A000 and one for $6000. The images were programmed into two EPROMs, the $A000 software was inserted into IC1, the $6000 software into IC2. Jumper JP1 was set to , JP2 to . The software started properly and the game could be played.

* **EPROM IC2 with verified**

## VIC-MON (for $4000)

The source of this software is once again zimmers.net. It was programmed into the 5th 8k memory bank (@ buffer address $8000) of an EPROM. The EPROM was inserted into IC1 and JP1 was set to .

SYS4x1022 started the software properly.

* **Bank select (100) on JP3 and (JP1) verified**

## Installation in cartridge cases

The fully assembled Super Expander II PCB (all ICs on sockets and all vertical jumpers) was installed in the **original Commodore Super Expander cartridge case**- This could be accomplished without a problem.

The **original Commodore Game cartridge case** required removing some support structures for small PCBs, after that, it also fit.

The **tfw8bit.com VIC-20 cartridge case** fits after removing the support structures for the short PCBs.

* **Dimensions verified**

# Conclusion

**The Super Expander II Rev. 0 is fully functional**