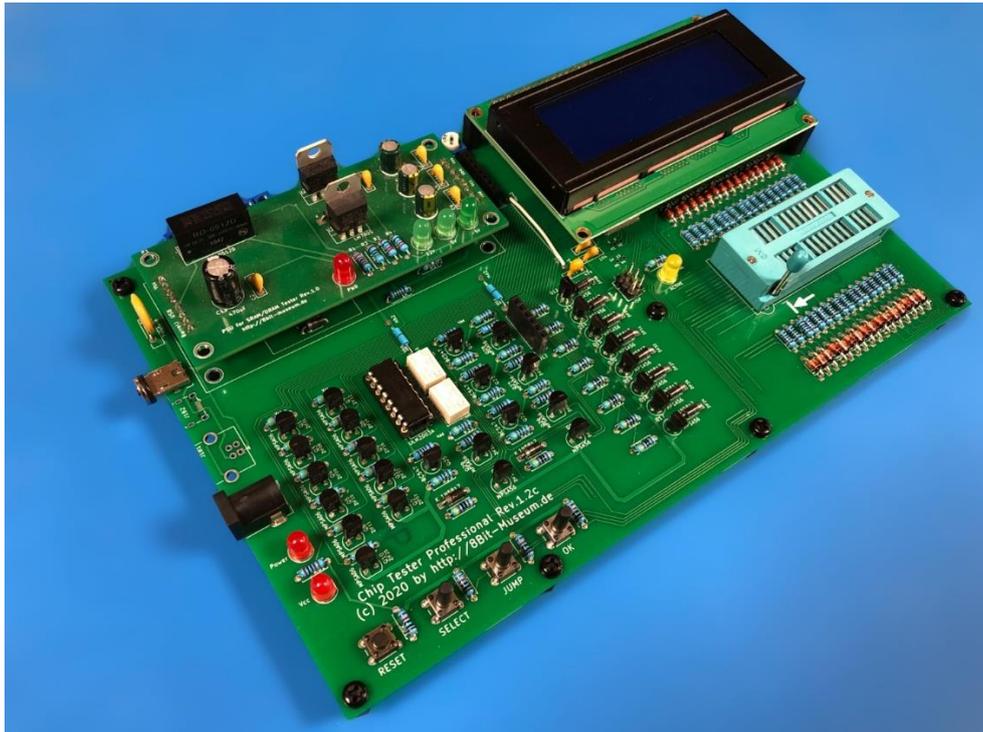


Retro Chip Tester Professional

<http://8bit-museum.de>

PRICE LIST



Rev.1.x

12/2022

Within the EU, all prices include the applicable EU VAT.

Outside the EU, all prices are net.

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Quick Overview (page 1)

Main Unit		
Retro Chip Tester Pro (RCT) already populated with ATmega2560	+ Standard DC/DC Board + Manuals / BOM / FW + Micro USB-Socket [*]	64,-- EUR [**]
Shipping costs	see table in the next section	see below

[*] free addition, only for a limited time while stocks last, delivery cannot be guaranteed

[**] due to the price increase of the ATmega from 6 US\$ to currently over 30 US\$

The RCT is also available as bare board (without ATmega2560, please see next page).

Services (optional)		
Pre-Programming of the ATmega2560 + 16 MHz Crystal and 2x 22pF Capacitors	The RCT can be used immediately after assembly.	12,-- EUR

DC/DC Modules (optional)		
DC/DC Board (#2) with LM317	see separate page	5,-- EUR
DC/DC Board (#3) with RECOM	see separate page	5,-- EUR

Adapters (optional) – Please check the manual for details			
SIMM / SIPP Adapter (30 pin)		Set 1, 2	5,-- EUR
ZIP16 Adapter (16 pol.)		Set 1, 2	5,-- EUR
ZIP20 Adapter (20 pol.)		Set 1, 2	5,-- EUR
Intel 2107 Adapter (MM5280, TMS4060 etc.)		Set 1, 2	5,-- EUR
7481 / 7484 Adapter		Set 1, 2	5,-- EUR
74121 / 74122 / 74123 et al. (Multivibrators) Adapter		Set 1, 2	5,-- EUR
1702 / 1602 Adapter		Set 1, 2	5,-- EUR
MK4006 / MK4008 Adapter		Set 1, 3	5,-- EUR
MM4204 / MM5204 Adapter		Set 1, 3	5,-- EUR
2513 Adapter (three voltages)	not required for 5v only	Set 1, 3	5,-- EUR
TMS4050/TMS4051 Adapter	TMS4051 untested	Set 1, 3	5,-- EUR
4098 / 4528 / 4538 (Multivibrators) Adapter		Set 1, 3	5,-- EUR
Programming Adapter for 2708 EPROM		Set 1, 4	5,-- EUR
Programming Adapter for 2716/2532 EPROM		Set 1, 4	5,-- EUR
Programming Adapter for TMS2716		Set 1, 4	5,-- EUR
Programming Adapter for 2732 EPROM		Set 1, 4	5,-- EUR
Programming Adapter for 2564 EPROM		Set 1, 4	5,-- EUR
Commodore C64 Cartridge Adapter		Set 1	5,-- EUR
Commodore VC20 Cartridge Adapter		Set 1	5,-- EUR
Atari VCS/2600 Cartridge Adapter		Set 1	5,-- EUR
Breakout Adapter		Set 1	5,-- EUR
ZIP-2-DIP Adapter	set of three	Set 1	12,-- EUR
1-8 MBit (32-pin) EPROM Electronic Signature Adapter		Set 1	5,-- EUR
Decoupling Adapter		Set 1	5,-- EUR
CDP18U42 Adapter		Set 5	5,-- EUR
Signetics 2530 Adapter		Set 5	5,-- EUR
uPD454 / uPD464 Adapter		Set 5	5,-- EUR
MK28000, TMS4800 Adapter		Set 5	5,-- EUR
Intel 8155/8156 Adapter		Set 5	5,-- EUR
1-16 Mbit Adapter (8 Bit)	Prototype	on request	5,-- EUR
Distance Adapter	set of two		5,-- EUR
PLCC32 Adapter			5,-- EUR
PLCC28 Adapter			5,-- EUR

Quick Overview (page 2)

Set offers for adapters	
Set 1 - "I want them all!" (26 adapters) (*)	
SIMM / SIPP Adapter (30 pin)	
ZIP16 Adapter (16 pol.)	
ZIP20 Adapter (20 pol.)	
Intel 2107 Adapter (MM5280, TMS4060 etc.)	
7481 / 7484 Adapter	
74121 / 74122 / 74123 et al. (Multivibrators) Adapter	
4098 / 4528 / 4538 (Multivibrators) Adapter	
1702 / 1602 Adapter	
MK4006 / MK4008 Adapter	
MM4204 / MM5204 Adapter	
2513 Adapter (three voltages)	427 EUR
Commodore C64 Cartridge Adapter	
Commodore VC20 Cartridge Adapter	100,-- EUR
Atari VCS/2600 Cartridge Adapter	(approx. -21%)
Breakout Adapter	
ZIP-2-DIP Adapter (set of three)	
Decoupling Adapter	
TMS4050/TMS4051 Adapter	
1-8 MBit (32-pin) EPROM Electronic Signature Adapter	
Programming Adapter for 2708 EPROM	
Programming Adapter for 2716/2532 EPROM	
Programming Adapter for TMS2716	
Programming Adapter for 2732 EPROM	
Programming Adapter for 2564 EPROM	

(*) does not include set #5 with rarely used adapters / Set #2, #3 and #4 are completely included

Quick Overview (page 3)

Set offers for adapters	
Set 2 - "Common ICs" (7 adapters)	
SIMM / SIPP Adapter (30 pin) ZIP16 Adapter (16 pol.) ZIP20 Adapter (20 pol.) Intel 2107 Adapter (MM5280, TMS4060 etc.) 7481 / 7484 Adapter 74121 / 74122 / 74123 et al. (Multivibrators) Adapter 1702 / 1602 Adapter	35 EUR 30,-- EUR (approx. -15%)

Set offers for adapters	
Set 3 - "Uncommon ICs" (5 adapters)	
MK4006 / MK4008 Adapter MM4204 / MM5204 Adapter 2513 Adapter (three voltages) TMS4050/TMS4051 Adapter 4098 / 4528 / 4538 (Multivibrators) Adapter	25 EUR 20,-- EUR (approx. -20%)

Set offers for adapters	
Set 4 - "Programming" (5 adapters)	
Programming Adapter for 2708 EPROM Programming Adapter for 2716/2532 EPROM Programming Adapter for TMS2716 Programming Adapter for 2732 EPROM Programming Adapter for 2564 EPROM	25 EUR 20,-- EUR (approx. -20%)

The following ICs have practically never been used or are very rarely used. In order not to inflate the price of sets 1 to 4 unnecessarily, they are listed here separately.

Set offers for adapters	
Set 5 - "Rarely used adapters" (5 adapters)	
CDP18U42 Adapter Signetics 2530 Adapter uPD454 / uPD464 Adapter MK28000, TMS4800 Adapter Intel 8155/8156 Adapter	25 EUR 20,-- EUR (approx. -20%)

Quick Overview (page 4)

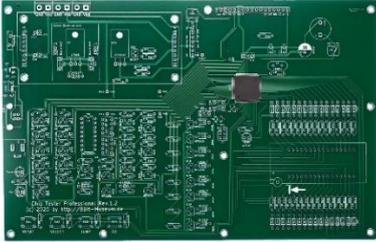
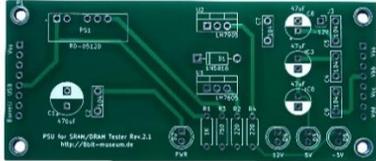
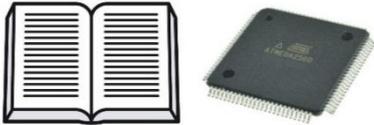
The following Adapters are prototypes and have not yet been extensively tested.
They are available on request only.

Prototypes	
1-16 Mbit Adapter (8 Bit)	
MX27C1100 MX23C2100, MX27C2100, uPD23C2000 AT27C400, HN27C4000, MX27C4100, uPD23C4000, M27C400, TC534200 AT27C8192, KM23C8105, M27C800, TC538200 KM23C16000, M27C160, TC5316200 Does not work with all ROMs/PROMs. Works with most EPROMs	on request

Details about the RCT and Adapters

Retro Chip Tester Pro (Required)

You will get the PCBs (and explicitly listed components), no other components are included. There is no kit available nor fully built units. The components are all standard and easy to get. You will receive a detailed BOM and the firmware.

Chip Tester Professional		Price (Euro)
Main Board populated with ATmega2560		incl.
DC/DC-Module PCB (Standard) see manual - Option #1 (with RD-0512D) allows testing of all chips		incl.
Manual, BOM, Firmware		incl.
Micro-USB Socket		incl. only for a limited time while stocks last
Total:		64,-- EUR

Please note: the components required cost around 30 - 40 EUR together.

When you want to populate the ATmega2560 yourself:

Chip Tester Professional UNPOPULATED		Price (Euro)
Main Board WITHOUT ATmega2560	Board completely unpopulated	incl.
DC/DC-Module PCB (Standard)	see manual Option #1 (with RD-0512D)	incl.
Manual, BOM, Firmware		incl.
Micro-USB Socket	only for a limited time while stocks last	incl.
Total:		30,-- EUR

Please note: the components required cost around 40 - 50 EUR together.

Shipping costs (DHL)

incl. packaging

Destination	Remark	Price (Euro)
Deutschland	with tracking Standard Parcel	7,-- EUR
Europe *)	with tracking Small Parcel	16,-- EUR
Swiss *) Great Britain *)	with tracking Small Parcel	24,-- EUR
Non-EU *) World *)	with tracking Small Parcel	26,-- EUR

*) without guarantee, the exact costs will be determined upon request

Note: Up to two main PCBs can be shipped in one "Small Parcel".

With three or more PCBs, the more expensive "standard shipping" must be selected (on request).

If only adapters are ordered, they can be sent cheaper than stated.

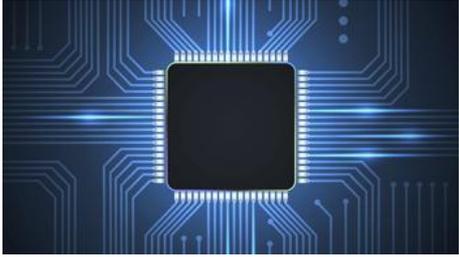
Some countries can only be shipped via the more expensive "standard shipping".

"Standard Parcel" (faster delivery) is possible on request but note that it is more expensive. The following table gives an orientation.

Destination	Remark	Price (Euro)
Europe *)	with tracking Standard Parcel	20,-- EUR
Swiss *) Great Britain *)	with tracking Standard Parcel	36,-- EUR
Non-EU *) World *)	with tracking Standard Parcel	42,-- EUR to 120,-- EUR
Common Destinations		
USA / Canada	Standard Parcel	60,-- EUR
	Premium Parcel	72,-- EUR

*) without guarantee, the exact costs will be determined upon request

Services (Optional)

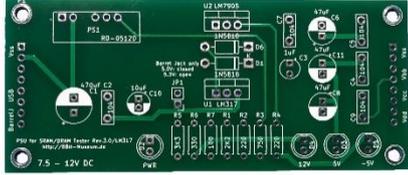
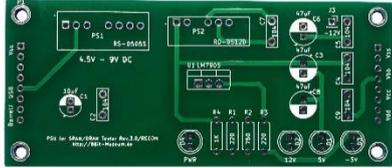
Pre-programming of the ATmega2560		Price (Euro)
Setting the Fuses and programming with current firmware		incl.
16 MHz Crystal + 2x 22pF		incl.
Total:		12,-- EUR

The microprocessor is delivered unprogrammed, i.e. the firmware must be flashed with a programming device before use. If desired, the microprocessor can be delivered already programmed with the current firmware. This means that the RCT can be used immediately after assembly.

Note: Not available on the completely unpopulated board.

DC/DC-Modules PCBs (Optional)

There are two additional DC/DC modules that can be useful for special tasks. You will get the PCBs; no other components are included.

Component	Picture	Price (Euro)
DC/DC-Module PCB Option #2 using RD-0512D and LM317		5,-- EUR
DC/DC-Module PCB Option #3 using RD-0512D and RS-0505S		5,-- EUR

Option #2 - with RD-0512D and LM317

This module uses a RECOM regulator like the standard board, but instead of the fixed voltage regulator an LM317 for the 5V supply voltage. This allows the supply voltage to be set from 4.8V to 5.3V by setting two jumpers. This may be necessary for special tests, e.g.

- for NVRAMs that go into read-only mode below 4.8V (rarely),
- with aged memory modules whose behavior you want to test with increased voltage.

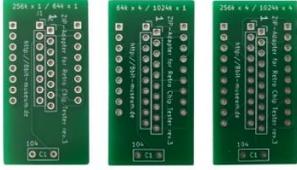
Option #3 - with RD-0512D and RS-0505S

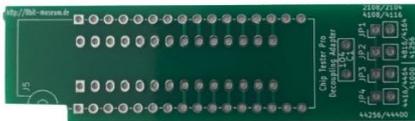
This module uses two RECOM controls. If the chip tester is supplied with less than 5V, e.g. USB connection below 5V (USB 1.0 allows between 4.25V and 5.25V) or by battery, the additional module initially generates a regulated 5V voltage.

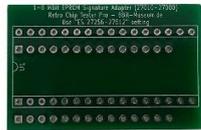
These DC/DC module PCBs are intended for special purposes and are not necessary for normal use.

Adapter PCBs (Optional)

Please read the explanations for the following adapters.

Component	Picture	Price (Euro)
ZIP-to-DIP Adapter		12,-- EUR set of three
<p>This Adapter exists in three variants:</p> <ul style="list-style-type: none"> • for 256k x 1 and 64k x 1 ZIP modules, • for 64k x 4 and 1024k x 1 ZIP modules, • for 256k x 4 and 1024k x 4 ZIP modules. <p>It allows to test ZIP modules like the ZIP20 or ZIP16 adapter. The difference is that the standard test functions for DRAMs are used and you do not have two adapters (one for ZIP16 and one for ZIP20) but three adapters. That means you can test a 256k x 1 ZIP module with the “256k x 1 / 64k x 1” ZIP-to-DIP adapter using the 41256-test function.</p> <p>The adapter is not suitable for inserting a ZIP module into a DIP16 / 18/20 socket, as the grid dimension is 15.24mm. This adapter should also work with other DRAM testers.</p>		

Component	Picture	Price (Euro)
Decoupling Adapter		5,-- EUR
<p>Some DRAMs have an increased power consumption that has to be absorbed with a decoupling capacitor. For this purpose, a 100 nF capacitor can be clamped into the socket between Vcc and Vss. Instead of clamping a 100 nF capacitor between Vcc and Vss in the socket, you can use the Decoupling Adapter.</p> <p>The current board (from 1.2k) has jumpers next to the ZIF socket, which make the Decoupling Adapter redundant. If you build the tester into a housing, you may still want to use it. It can also be used with other testers.</p>		

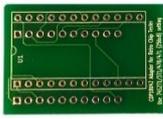
Component	Picture	Price (Euro)
1-8 Mbit EPROM Signature Adapter		5,-- EUR
<p>The RCT can read the signature of 64-512 KBit EPROMs and EEPROMs directly (2764-27512). This adapter is required for (E)EPROMs with 1-8 MBit (27C010-27C080 or 29C010-29C040).</p>		

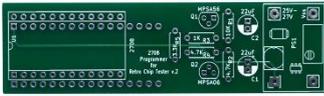
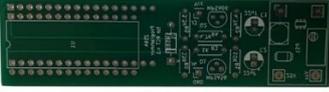
The Gerber files for these adapters are available free of charge.

Adapter PCBs (Optional) cont.

Please read the explanations for these adapters.

Component	Picture	Price (Euro)
TMS4050/TMS4051 Adapter		5,-- EUR
TMS4050 tested, TMS4051 untested		
The adapter has not yet been fully tested. So far, the function has been successfully tested with the TMS4050 (12v, positive CE signal). The function with a TMS4051 has not yet been verified (5v, negative CE signal).		

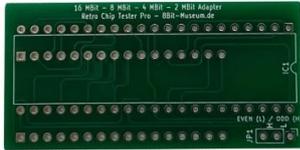
Component	Picture	Price (Euro)
CDP18U42 Adapter		5,-- EUR
The adapter has not yet been fully tested.		

Component	Picture	Price (Euro)
Programming Adapter for 2708 EPROM		5,-- EUR
The adapter allows a maximum programming voltage of 28v, usually only 25v are required.		
Programming Adapter for 2716/2532 EPROM		5,-- EUR
The adapter allows a maximum programming voltage of 28v, usually only 21v or 25v are required.		
Programming Adapter for TMS2716 EPROM under evaluation		5,-- EUR
The adapter allows a maximum programming voltage of 28v, usually only 25v are required.		
Programming Adapter for 2732 EPROM		5,-- EUR
The adapter allows a maximum programming voltage of 28v, usually only 21v or 25v are required.		
Programming Adapter for 2564 EPROM under evaluation		5,-- EUR
The adapter allows a maximum programming voltage of 28v, usually only 25v are required.		

The Gerber files for these adapters are available free of charge.

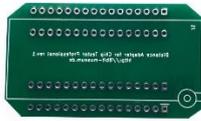
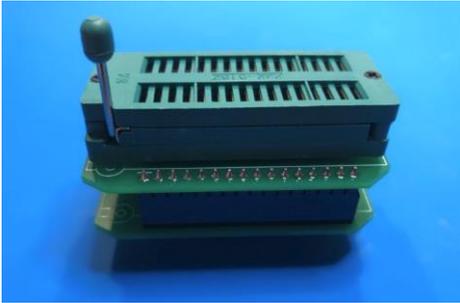
Adapter PCBs (Optional) cont.

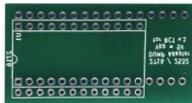
These are prototypes. Please read the explanations for these adapters.

Component	Picture	Price (Euro)
1 Mbit: MX27C1100 2 Mbit: MX23C2100, MX27C2100, uPD23C2000 4 Mbit: AT27C400, HN27C4000, MX27C4100, uPD23C4000, M27C400, TC534200 8 Mbit: AT27C8192, KM23C8105, M27C800, TC538200 16 Mbit: KM23C16000, M27C160, TC5316200 Available on request only		on request
<p>The adapter has not yet been fully tested. The (E)(P)ROMs above can be used in 8 Bit Mode or 16 Bit Mode. The adapter uses the 8 Bit Mode in order to dump these ROMs. Note: It might be possible that masked ROMs have been modified not to work in 8 Bit Mode so they cannot be dumped with this adapter.</p>		

Adapter PCBs (Optional) cont.

Please read the explanations for these adapters.

Component	Picture	Price (Euro)
Distance adapter Available on request only		5,-- EUR set of two
<p>This adapter is usually not required. It is used when someone needs an increased ZIF socket due to a housing.</p> <div style="display: flex; justify-content: space-around;">   </div> <p>Two PCBs are delivered that can be connected as shown in the picture.</p>		

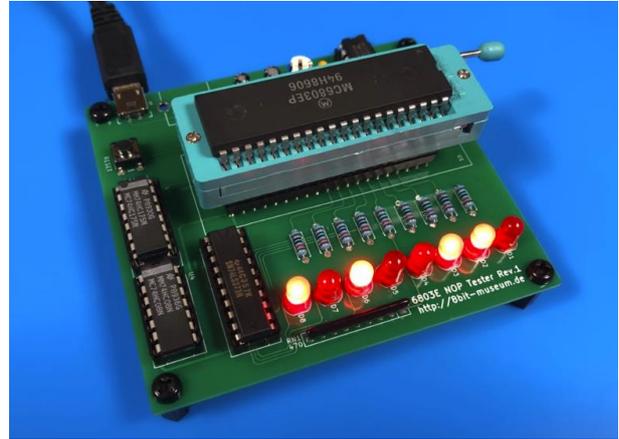
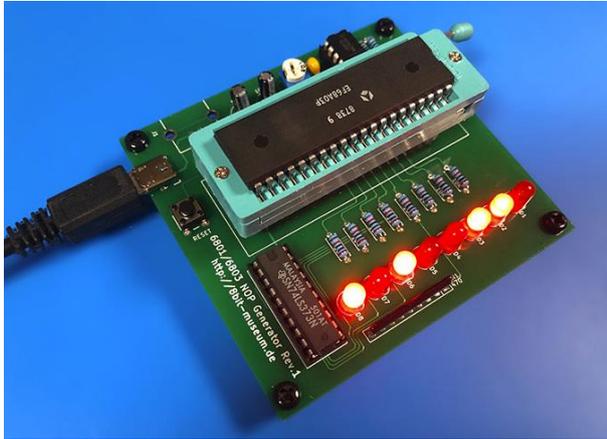
Component	Picture	Price (Euro)
2716 DUMP adapter Available on request only		5,-- EUR
<p>The 2716 DUMP adapter is usually not required when using the RCT.</p> <p>When 2716 EPROMs are read out, pin Vpp must be connected to Vcc. The RCT can supply up to 8mA for this purpose, which is usually sufficient. If this does not work in rare cases, there is a special definition file that still allows reading the EPROM (see manual).</p> <p>The adapter connects pin 21 to pin 24 and thus puts Vpp on Vcc. It can be used with other devices that have problems reading out 2716 EPROMs.</p>		

Component	Picture	Price (Euro)
PLCC32 / PLCC28 Available on request only		each 5,-- EUR
<p>With this adapter, PLCC ICs can be dumped / tested. There is one adapter for PLCC32 and one for PLCC28. The pins are 1:1 connected.</p>		

Component	Picture	Price (Euro)
SX1308 DC-DC 2-24V / 2-28V Step Up Modul Available on request only		5,-- EUR
<p>This module is required for the programming adapter (also available on Amazon, eBay, AliExpress). The delivery takes place only on request and while stocks last.</p>		

Misc Hardware - CPU NOP Tester

When used in a NOP Tester, a CPU only executes NOP commands (No Operation). The address lines can be observed with the help of eight LEDs. If the CPU executes the NOPs, the addresses should be continuously incremented. This does not allow a complete test the CPU, but you can at least quickly check whether a CPU is still "starting". Due to the complexity of a CPU, it can of course still be defective.



6801/6803 and 6803E NOP Tester

PCBs for NOP Testers are available for the following CPUs:

- Z80 NOP Tester
- 6502 NOP Tester
- 6503/6505/6506 NOP Tester
- 6504/6507 NOP Tester
- 6510 NOP Tester
- 6800 NOP Tester
- 6801/6803 NOP Tester
- 6803E NOP Tester
- 6802/6808 NOP Tester
- 6809 NOP Tester
- 6809E NOP Tester

The Gerber files, BOM and explanations can be found on this page:

<https://8bit-museum.de/sonstiges/hardware-projekte/hardware-projekte-cpu-nop-tester/>



6510, 6502, 6809E, 6809, Z80, 6801/6803, 6802/6808, 6800 NOP Tester

The PCBs can be purchased for 7 EUR / piece.