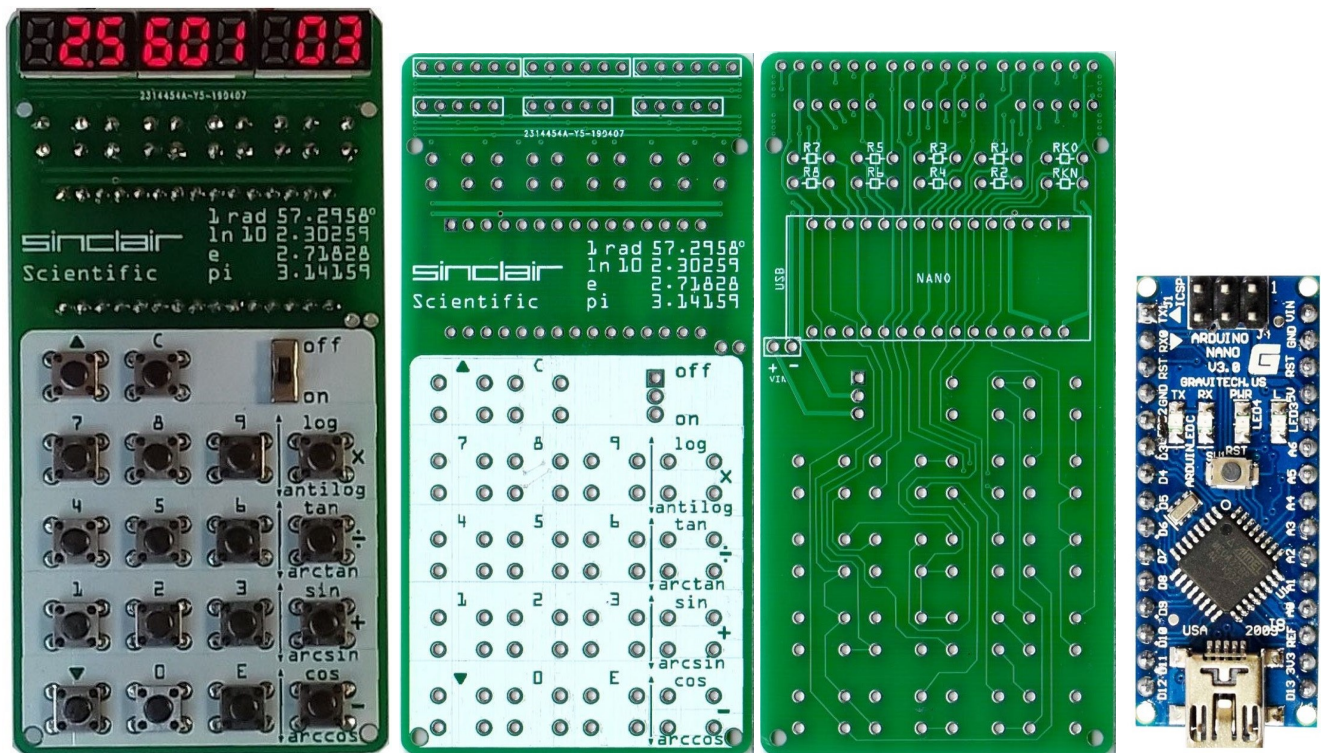


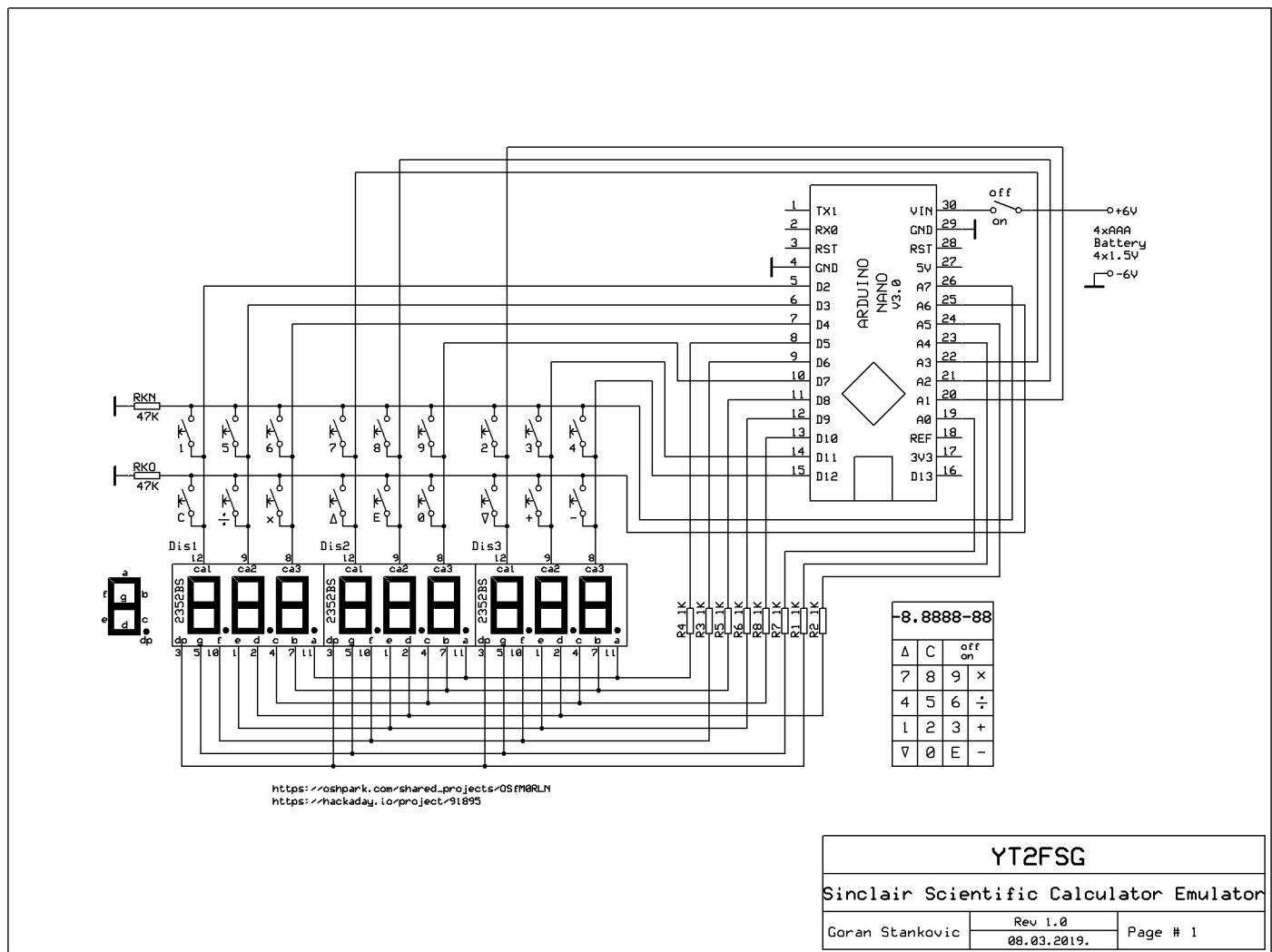
Sinclair Scientific Calculator Emulator

Na web stranici [Sinclair Scientific Calculator Emulator V5 - r6 - RC1](#) ili na [Hackaday: Sinclair Scientific Calculator Emulator](#) opisana je izrada sa dokumentacijom ovog kalkulator emulatora sa [ARDUINO NANO V3.0](#) modulom. Za napajanje koristi se napon 6V (4 x AAA baterija 1.5V).



Izradu PCB štampane ploče možete uraditi preko on-line kompanija: [EasyEDA](#) - [JLCPCB](#) ili [Sceed](#)

Električna šema, Sinclair Scientific Calculator Emulator:



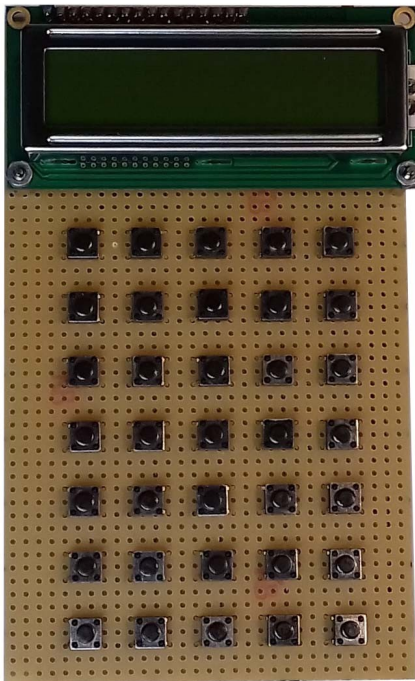
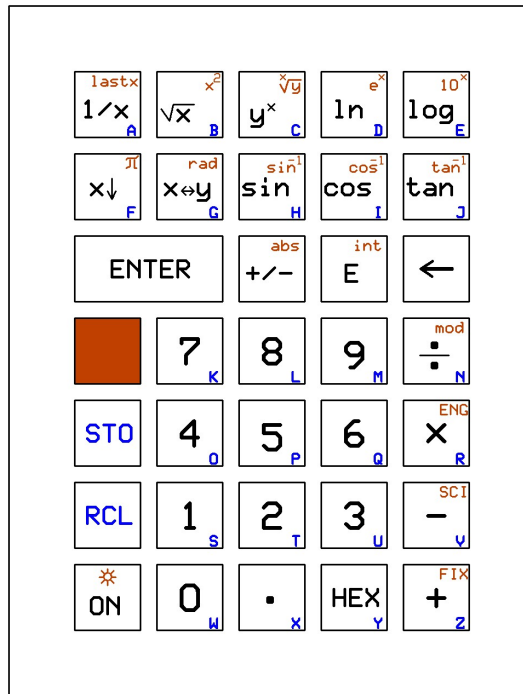
Download File: [Lista materijala za Sinclair Scientific Calculator Emulator](#)

Download Software za ARDUINO: [Download the Arduino IDE](#)

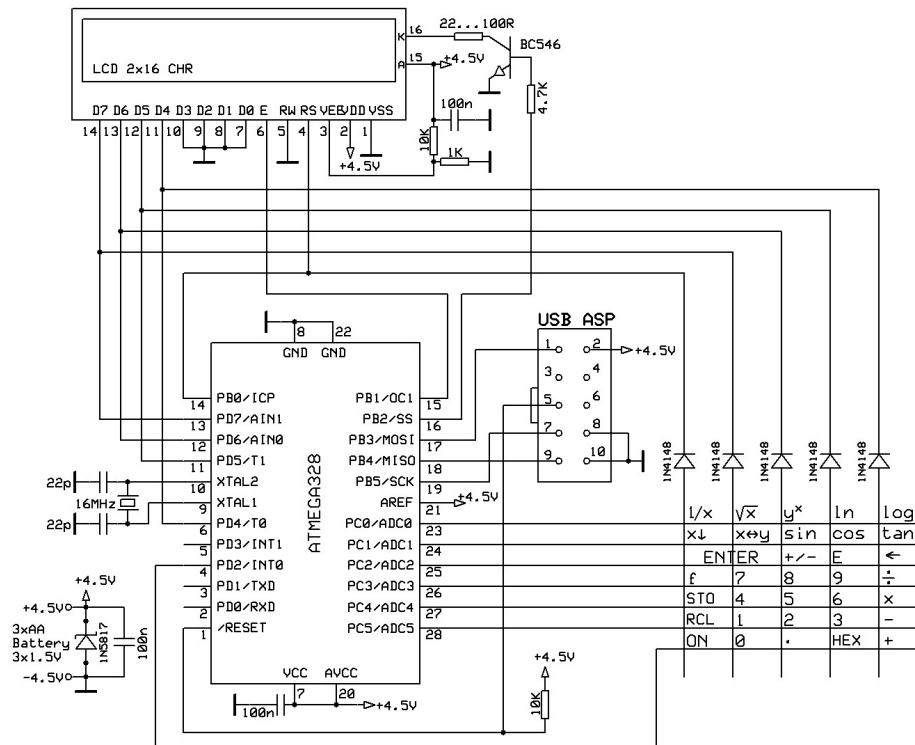
RPN Scientific Calculator 328

Na web stranici [Easy Calc 64-bit floating point RPN calculator for arduino](#) dat je software bez električna šeme ovog kalkulator emulatora sa mikrokontrolerom ATmega328P.

Za napajanje koristi se napon 4.5V (3 x AA baterija 1.5V).



Električna šema, RPN Scientific Calculator 328:



YT2FSG

RPN Scientific Calculator 328

Goran Stankovic

Rev 1.0

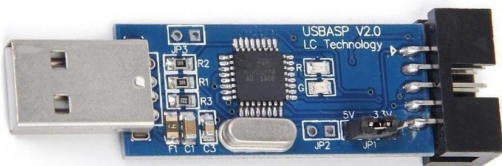
15.02.2019.

Page # 1

Download File: [Lista materijala za RPN Scientific Calculator 328](#)

Software je dužine 32KB, koristi se mikrokontroler ATmega328P bez bootladera.

Programira se pomoću [USB ASP V2.0](#) (USB ISP) programatora i [AVRDUDE - AVR Downloader/UplodaEr](#)



```
C:\Windows\system32\cmd.exe
D:\Calculator>328_calc\ec-master>avrdude -p m328p -c usbasp -e -U flash:w:ec.ino
.arduino_standard.hex -vvvv
avrdude: Version 5.10, compiled on Jan 19 2010 at 10:45:23
Copyright (c) 2000-2005 Brian Dean, http://www.bdmicro.com/
Copyright (c) 2007-2009 Joerg Wunsch

System wide configuration file is "C:\WinAVR-20100110\bin\avrdude.conf"

Using Port                : lpt1
Using Programmer           : usbasp
avrdude: seen device from vendor ->www.fischl.de<-
avrdude: seen product ->USBasp<-
AVR Part                  : ATMEGA328P
Chip Erase delay          : 9000 us
PAGEL                     : PD7
BS2                       : PC2
RESET disposition        : dedicated
RETRV pulse              : SCK
serial program mode      : yes
parallel program mode    : yes
Timeout                  : 200
StabDelay                : 100
CmdexeDelay              : 25
SyncLoops                : 32
ByteDelay                : 0
PollIndex                : 3
PollValue                : 0x53
Memory Detail

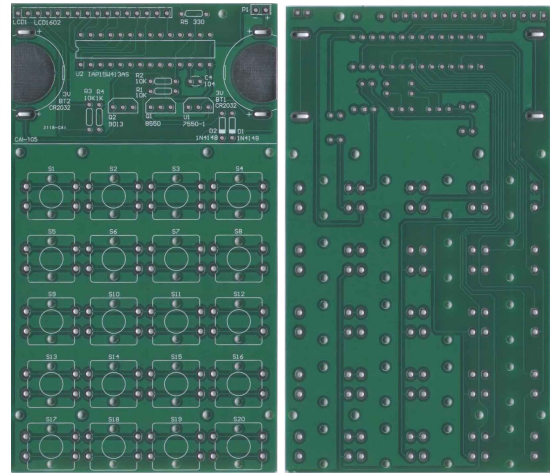
    Polled Memory Type Mode Delay Size  Indx Paged  Size   Size #Pages MinW  Max
-----
W  ReadBack
-----
    00 0xff 0xff eeprom      65    5    4    0 no     1024    4    0 3600 36
    00 0xff 0xff
    Block Poll
    Polled Memory Type Mode Delay Size  Indx Paged  Size   Size #Pages MinW  Max
-----
W  ReadBack
-----
    00 0xff 0xff flash      65    6  128    0 yes   32768  128   256 4500 45
    00 0xff 0xff
    Block Poll
    Polled Memory Type Mode Delay Size  Indx Paged  Size   Size #Pages MinW  Max
-----
W  ReadBack
-----
    00 0x00 0x00 lfuse      0    0    0    0 no      1    0    0 4500 45
    00 0x00 0x00
    Block Poll
    Polled Memory Type Mode Delay Size  Indx Paged  Size   Size #Pages MinW  Max
-----
W  ReadBack
-----
    00 0x00 0x00 hfuse      0    0    0    0 no      1    0    0 4500 45
    00 0x00 0x00
    Block Poll
    Polled Memory Type Mode Delay Size  Indx Paged  Size   Size #Pages MinW  Max
-----
W  ReadBack
-----
    00 0x00 0x00 efuse      0    0    0    0 no      1    0    0 4500 45
    00 0x00 0x00
    Block Poll
    Polled Memory Type Mode Delay Size  Indx Paged  Size   Size #Pages MinW  Max
-----
W  ReadBack
-----
    00 0x00 0x00 lock      0    0    0    0 no      1    0    0 4500 45
    00 0x00 0x00
    Block Poll
    Polled Memory Type Mode Delay Size  Indx Paged  Size   Size #Pages MinW  Max
-----
```



```
CA\Windows\system32\cmd.exe
Memory Type Mode Delay Size Indx Paged Size Size #Pages MinW Max
W ReadBack
-----
calibration 0 0 0 0 no 1 0 0 0
0 0x00 0x00
Block Poll
Page
Polled
Memory Type Mode Delay Size Indx Paged Size Size #Pages MinW Max
W ReadBack
-----
signature 0 0 0 0 no 3 0 0 0
0 0x00 0x00
Programmer Type : usbaspp
Description : USBasp, http://www.fischl.de/usbaspp/
avrdude: auto set sck period (because given equals null)
avrdude: warning: cannot set sck period. please check for usbaspp firmware update
avrdude: AVR device initialized and ready to accept instructions
Reading : ##### : 100% 0.02s
avrdude: Device signature = 0x1e950f
avrdude: safemod read 1, lfuse value: 62
avrdude: safemod read 2, lfuse value: 62
avrdude: safemod read 3, lfuse value: 62
avrdude: safemod: lfuse reads as 62
avrdude: safemod read 1, hfuse value: d9
avrdude: safemod read 2, hfuse value: d9
avrdude: safemod read 3, hfuse value: d9
avrdude: safemod: hfuse reads as D9
avrdude: safemod read 1, efuse value: 7
avrdude: safemod read 2, efuse value: 7
avrdude: safemod read 3, efuse value: 7
avrdude: safemod: efuse reads as 7
avrdude: erasing chip
avrdude: auto set sck period (because given equals null)
avrdude: warning: cannot set sck period. please check for usbaspp firmware update
avrdude: reading input file "ec.ino.arduino_standard.hex"
avrdude: input file ec.ino.arduino_standard.hex auto detected as Intel Hex
avrdude: writing flash (32102 bytes):
Writing : ##### : 100% 22.95s
avrdude: 32102 bytes of flash written
avrdude: verifying flash memory against ec.ino.arduino_standard.hex:
avrdude: load data flash data from input file ec.ino.arduino_standard.hex:
avrdude: input file ec.ino.arduino_standard.hex auto detected as Intel Hex
avrdude: input file ec.ino.arduino_standard.hex contains 32102 bytes
avrdude: reading on-chip flash data:
Reading : ##### : 100% 19.27s
avrdude: verifying ...
avrdude: 32102 bytes of flash verified
avrdude: safemod read 1, lfuse value: 62
avrdude: safemod read 2, lfuse value: 62
avrdude: safemod read 3, lfuse value: 62
avrdude: safemod: lfuse reads as 62
avrdude: safemod read 1, hfuse value: d9
avrdude: safemod read 2, hfuse value: d9
avrdude: safemod read 3, hfuse value: d9
avrdude: safemod: hfuse reads as D9
avrdude: safemod read 1, efuse value: 7
avrdude: safemod read 2, efuse value: 7
avrdude: safemod read 3, efuse value: 7
avrdude: safemod: efuse reads as 7
avrdude: safemod: Fuses OK
avrdude done. Thank you.
D:\Calculator\328_calc\ec-master>pause
Press any key to continue . . .
```

DIY Kit Calculator

Na web stranici [DIYleyuan: Calculator Installation & Instructions](#) dato je detaljno upustvo za samogradnju ovog kalkulatora za elektroničare entuzijaste.



Plavi LCD displej i PCB ploča smešteni su u akrilno prozirno kućište. Za napajanje koristi se napon 6V (2 x CR2032 baterija 3V).

Funkcije:

Osnovne računске operacije (+, -, *, /) sa decimalnom tačkom.

Računa vrednost otpornika na osnovu boja sa 4 ili 5 prstena.

Računa vrednost otpornika za ograničenje struje LED diode.

Konverzija broja DEC -> HEX i HEX -> DEC.

Link:

- [Sinclair Scientific](#)
- [Reversing Sinclair's amazing 1974 calculator hack](#)
- [Hackaday: Sinclair Scientific](#)
- [Sinclair Scientific Calculator Emulator V5 - r6 - RC1](#)
- [Sinclair Scientific Calculator Emulator](#)
- [ARDUINO NANO V3.0](#)
- [Easy Calc 64-bit floating point RPN calculator for arduino](#)
- [AVRDUDE - AVR Downloader/UploadER](#)
- [USB ASP V2.0 \(USB ISP\) programatora](#)
- [Download the Arduino IDE](#)
- [DIYleyuan: Calculator Installation & Instructions](#)

- en.wikipedia.org/wiki/TI-59 / [TI-58](http://en.wikipedia.org/wiki/TI-58)
- en.wikipedia.org/wiki/HP-41C
- en.wikipedia.org/wiki/HP_39/40_series
- www.ti59.com/
- www.hpmuseum.org
- www.hpmuseum.org/prog/hp41prog.htm
- www.hpcalc.org
- www.hpcalc.org/hp39/