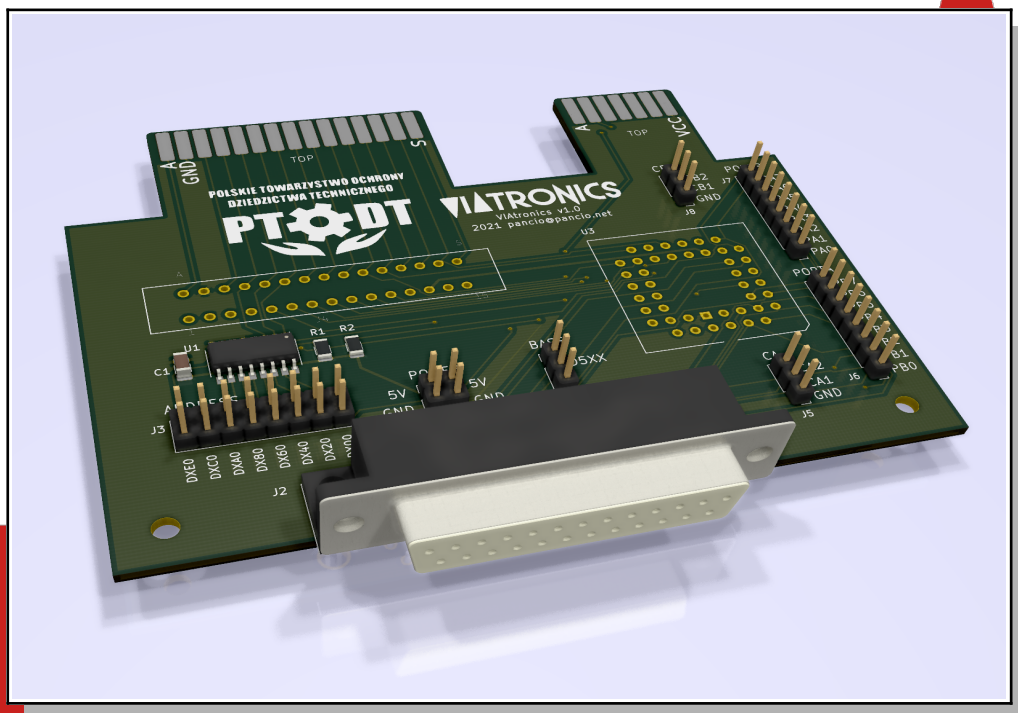
VIATRONICS

the fastest printing interface
for 8bit Atari



POLSKIE TOWARZYSTWO OCHRONY
DZIEDZICTWA TECHNICZNEGO

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BASIC INFORMATION

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INTRODUCTION

The inspiration for making this interface was online night discussions with a group of friends and their request to create a device that would connect a Centronics standard printer to Atari. In the past, such interfaces were commonly produced and available. Nowadays, it’s a challenge to get it.

VIAtronics is a new device that fills this gap and provides a much faster printing speed. Printing is much quicker because it uses the paraller port (ECI/CART) for data transfer, while the old interfaces usually used a slow serial port (SIO), cartridge or joystick ports.

This advantage, however, creates a limitation. The current version only fits Atari XE series computers with ECI slot. Moreover, the device does not have a dedicated case yet. Regardless, you must have a standard Centronics cable that connects the interface to the printer with the device.

The authots creadted this project as free hardware, and full documentation is available on the author's website:
https://systemembedded.eu

REQUIREMENTS

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The interface fits into any 8 bit Atari XE computer with CART (cartridge) and ECI (expansion) ports:

A Centronics-compatible printer is required. And of course the Centronics cable that will connect the interface to the printer.

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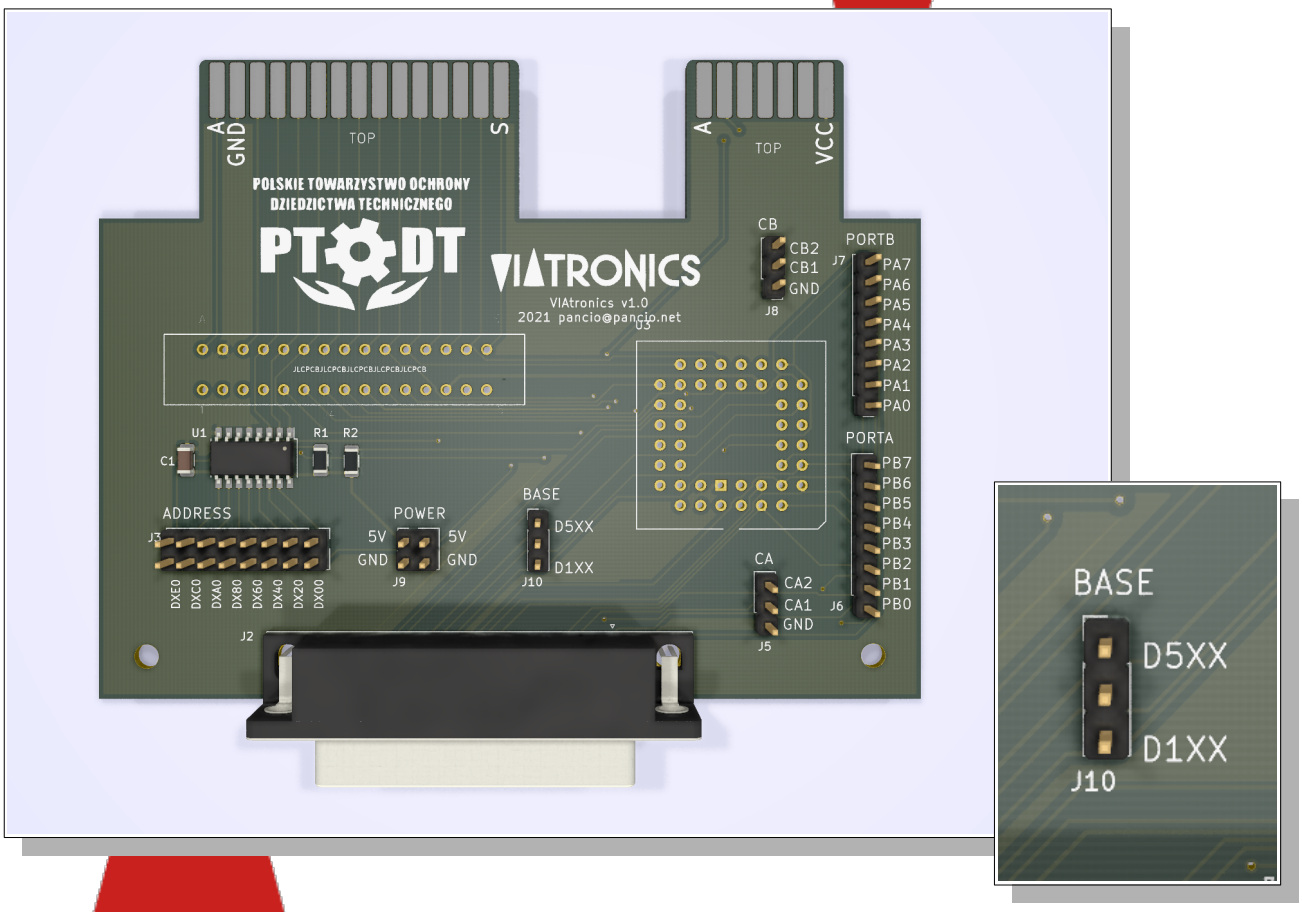
HARDWARE

The interface is built on a small PCB containing chip VIA6522 with two 8-bits parallel ports with control signals. Additional chip IC 74HCT138 is used as address decoder. All printer signals are connected to DB25 female port. In addition, all PORTA, PORTB, CA and CB signals are pulled out on the board, which can be used for the user's own needs.



There is also a selector on the PCB for selecting device address which can be selected from $D100-$D1E0 or $D500-$D5E0 with $20 step. Some programs placed on the

cartridge may conflict with the VIAtronics interface due to the use of the same addresses. To avoid this, after finding a conflict between the program on the cartridge and VIAtronics, you can use a jumper to change the device addressing setting to a different configuration, according to the table below.

J10 - BASE ADDRESS	
1-2	D5XX
2-3	D1XX

J9 - DEVICE ADDRESS		
1-2	D100	D500
3-4	D120	D520
5-6	D140	D540
7-8	D160	D560
9-10	D180	D580
11-12	D1A0	D5A0
13-14	D1C0	D5C0
15-16	D1E0	D5E0

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PTODT

SOFTWARE

The old software that allows printing on 8bit Atari computers does not support the VIAtronics interface for obvious reasons: the interface did not exist at the time these programs was created.

However, for the purposes of the ABBUC competition, to which VIAtronics was entered in 2021, the author of the interface wrote a short program in Turbo Basic XL that can send graphics and text from the computer's memory to a printer:

```
10 REM            BASE - VIAtronisc port
11 REM              PA/PB port A, port B
12 REM          DDRA setup BIT on port A
13 REM          DDRB setup BIT on port B
14 BASE=$D500:PA=BASE+1:PB=BASE
15 DDRA=BASE+3:DDRB=BASE+2
16 POKE DDRB,$0F:POKE DDRA,$FF
17 POKE PA,0:POKE PB,0
18 DIM A$(40)
19 A$="THIS IS PRINT TEST◥\"
20 EXEC LINE:END
21 ------------------------------
22 PROC LINE
23   FOR Y=1 TO LEN(A$)
24     POKE PA,ASC(A$(Y,Y))
25     POKE PB,0:PAUSE 0:POKE PB,255
26   NEXT Y
27 ENDPROC
```

Anyone who knows the basics of programming on 8bit Atari can write his own such driver for his printer. It is enough to know the printer control codes, usually found in the printer manual. The most common control codes standards used by old printer manufacturers are Epson and IBM. Epson codes are used in the program above.

If the user does not want to code the printing programs himself, he can use the only program that supports printing with use of VIAtronics – “Drukarz” (means “Typesetter” in English). The freeware program was written and is being developed by AtariFan. It allows you to print graphics both via SIO (on Atari 1029 and printers connected via the classic Centronics interface) and VIAtronics. The program enables basic operations on the image before printing (mirror image vertically and horizontally, moving up/down, left/right, negative). It can be downloaded from: http://atari8.eu or the utility archive on http://atarionline.pl

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This is the first project created as part of the activities of PTODT (Polskie Towarzystwo Ochrony Dziedzictwa Technicznego, what means Polish Society for the Protection of Technical Heritage), founded for the protection of technical heritage, especially in the field of informatics and computers. The aim of the association is to gather technical knowledge and technical monuments, their protection and education about them. We invite anyone willing to participate in the association. Visit the PTODT website: http://ptodt.atarionline.pl

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