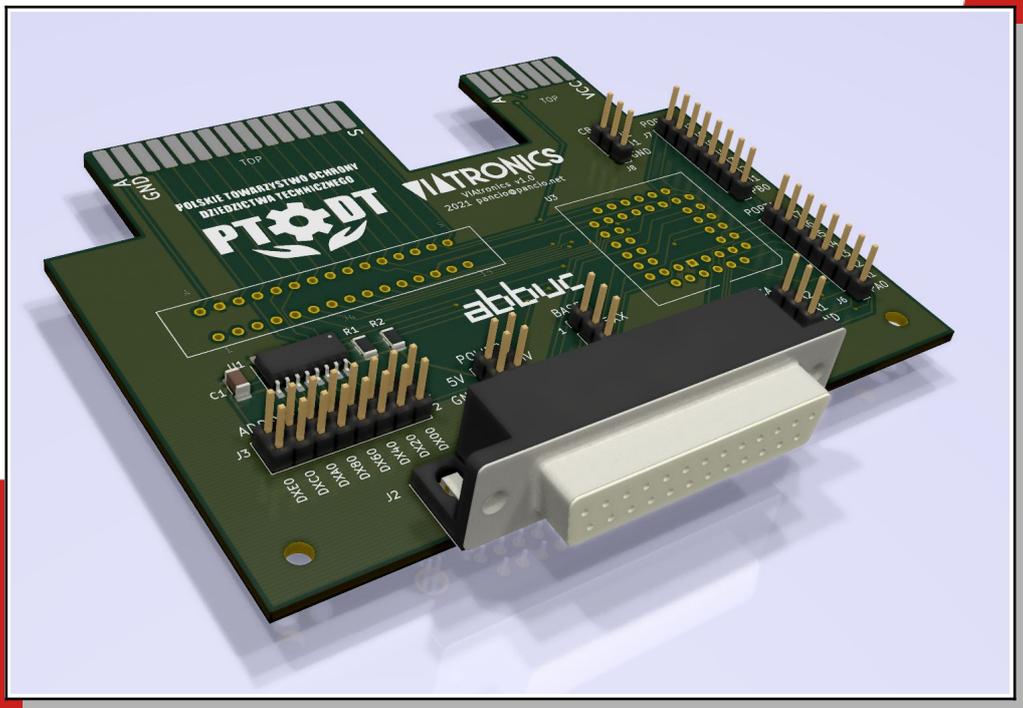


user manual for

VIATRONICS

the fastest printing interface
for 8bit Atari



POLSKIE TOWARZYSTWO OCHRONY
DZIEDZICTWA TECHNICZNEGO



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, this is quite 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 parallel 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 slots. Moreover, the device does not have a dedicated case yet. Regardless, a standard Centronics cable that connects the interface to the printer with the device is needed.

The author created this project as free hardware for non-commercial use, and full documentation is available on the author's website: <https://systemembedded.eu>.

REQUIREMENTS

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

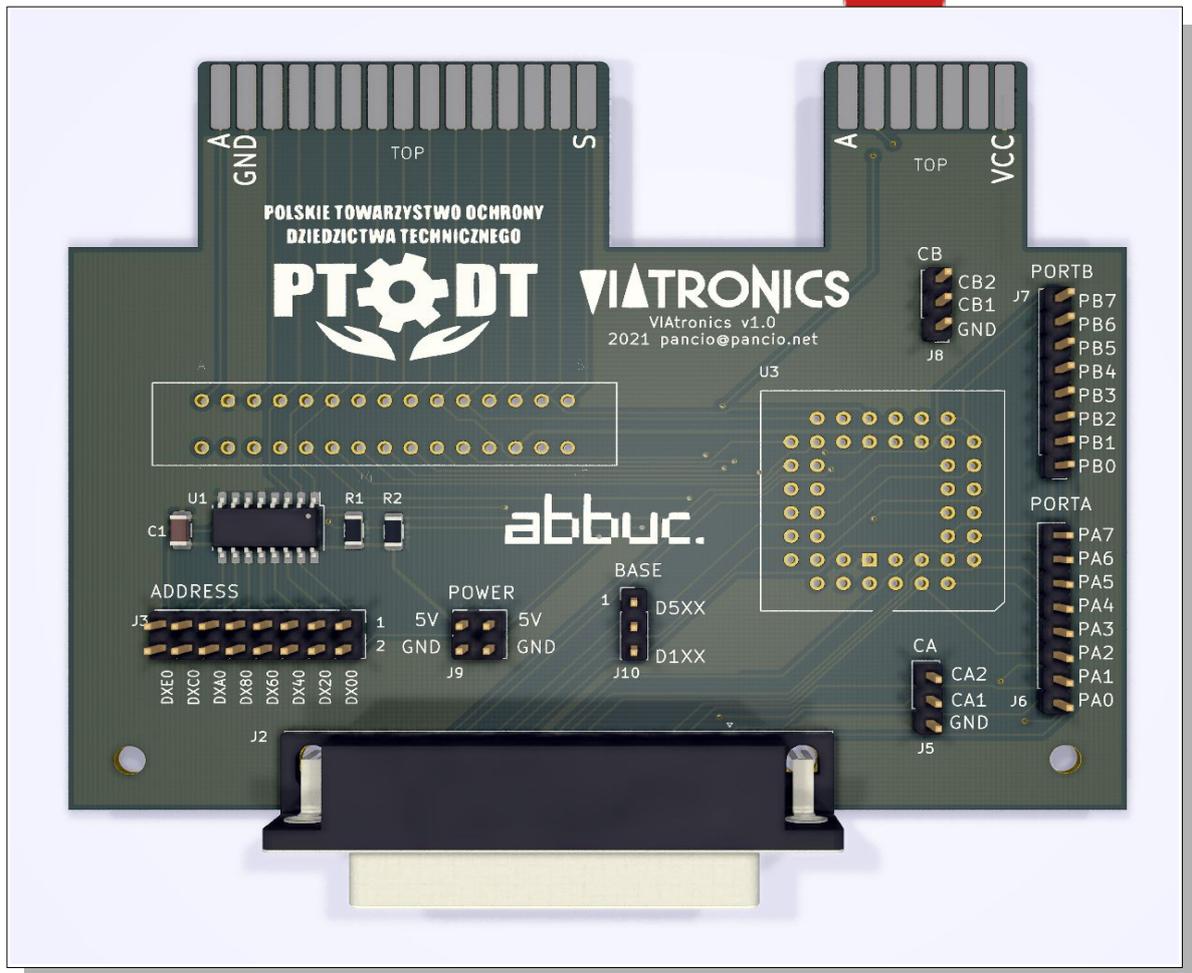


A Centronics-compatible printer is required. And, of course, the Centronics cable that will connect the interface to the printer:



HARDWARE

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



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Some programs placed on the cartridge may conflict with the VIAtronic interface due to using the same addresses. After finding such a conflict, the user can set a jumper on the BASE selector to change the device addressing setting. Possible configurations are in the table below. The user can select device address from range \$D100-\$D1E0 or \$D500-\$D5E0 with a \$20 step:



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

SOFTWARE

The old software that allows printing on 8bit Atari computers does not support the VIAronics interface for apparent reasons: the interface did not exist during their creation.

However, for the ABBUC competition, to which VIAronics 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 [REDACTED] BASE - VIAronics port
11 REM [REDACTED] PA/PB port A, port B
12 REM [REDACTED] DDRA setup BIT on port A
13 REM [REDACTED] 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 such a driver for his printer. It is enough to see 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. The program above uses Epson codes.

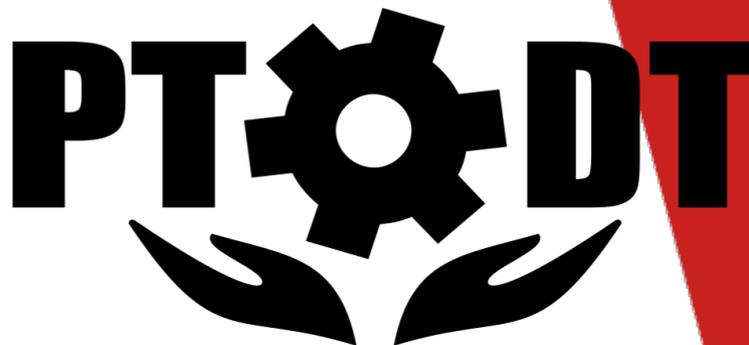
If the user does not want to code the printing program himself, he can use the only program at the moment that supports printing with the use of VIAtronic – “Drukarz” (means “Typesetter” in English). The freeware program was written and is still in active development by AtariFan. It allows you to print graphics via SIO (on Atari 1029 and printers connected via the classic Centronics interface) and VIAtronic. 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>.



PTODT

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

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