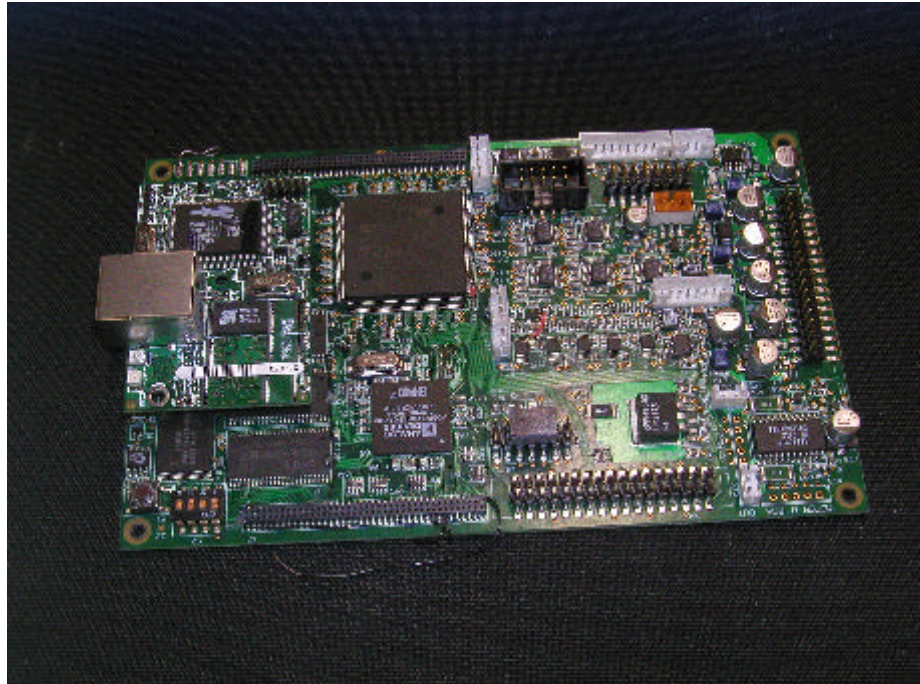




ArcDia DSP system

ArcDia DSP system consist of 3 electronic boards:

Processor card



Processor: ADSP-21161N, 100MHz, Dual Alu, 32-bit SHARC DSP

- # 100 MHz (10 ns) SIMD SHARC DSP core
- # 600 MFLOPS (32-bit floating-point data),
- # 600 MOPS (32-bit fixed-point data)
- # Code-compatible with ADSP-21x6x SHARC DSPs
- # Supports IEEE-compatible 32-bit floating-point, 40-bit floating-point and 32-bit fixed-point math
- # Single-cycle instruction execution, including SIMD operations in both computational units
- # One Mbit on-chip dual-ported SRAM
- # 2.4 Gbyte/sec on-chip data bandwidth
- # 14 zero-overhead DMA channels
- # Four synchronous serial ports with I2S support
- # Serial ports support 128 channels TDM frames with selection of companding on a per channel basis
- # Integrated support for SDRAM and SBSRAM external memories
- # Support for single-cycle, 100 MHz instruction execution from x48-bit wide external memories



Arctic Diagnostics Oy, VAT no: FI0926342-1

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Mail address: PO Box 51, FIN-20521 Turku, Finland

Delivery address: Tykistökatu 6, BioCity A, 5th floor, FIN-20520 Turku, Finland



Programmable logic circuit: XILINX FPGA Spartan III

http://www.xilinx.com/xlnx/xil_prodcat_landingpage.jsp?title=Spartan-3

Support for three different models XC3S50, XC3S200, XC3S400, of 50K, 200K and 400K gates respectively, including up to 141 IO-ports

FPGA circuit located in DSP system bus

100 Mhz system clock

Fast comparators for photon counting applications

LT1712: dual 4.5 ns comparators

3* AD5314BRM DAC, 10-bit, 4-channel, 7 μ s, for comparator voltage level setting

External Memory

3 * 128 Mbit SDRAM

32 Mbit FLASH

Ethernet controller

Rabbit Core RCM2200 ethernet microcontroller

10 Base-T

128kB SRAM, 256kB Flash



Analog I/O

1* AD5322BRM DAC, 12-bit, 2-channel, 8 μ s

1* AD5324BRM DAC, 12-bit, 4-channel, 8 μ s

1* AD928BRU ADC, 12-bit, 8-channel, 1MSPS

Smart card / SIM card interface

ISO-IEC 7816

Extension bus and connectors

16-bit data and 24-bit address bus

Digital /O connectors from FPGA

DSP Synchronous Serial Ports

Motor controllers

2x PWM 24V/500 mA DC-motor controllers



Arctic Diagnostics Oy

Biotechnology R&D, technology transfer and licensing

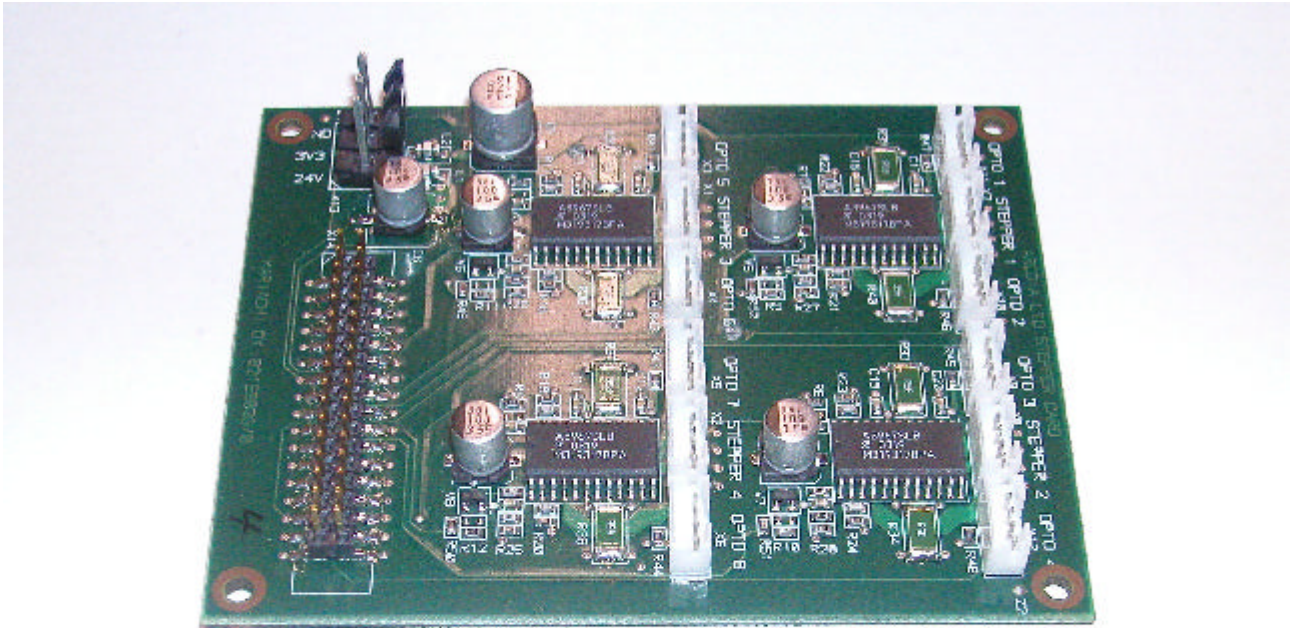
Preliminary information, condition to change

Motor control card

4* 500 mA / 24 V stepper motor controllers

Bipolar stepper motor support

Full step or 1/2, 1/4 and ? microstepping capability



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Power supply card

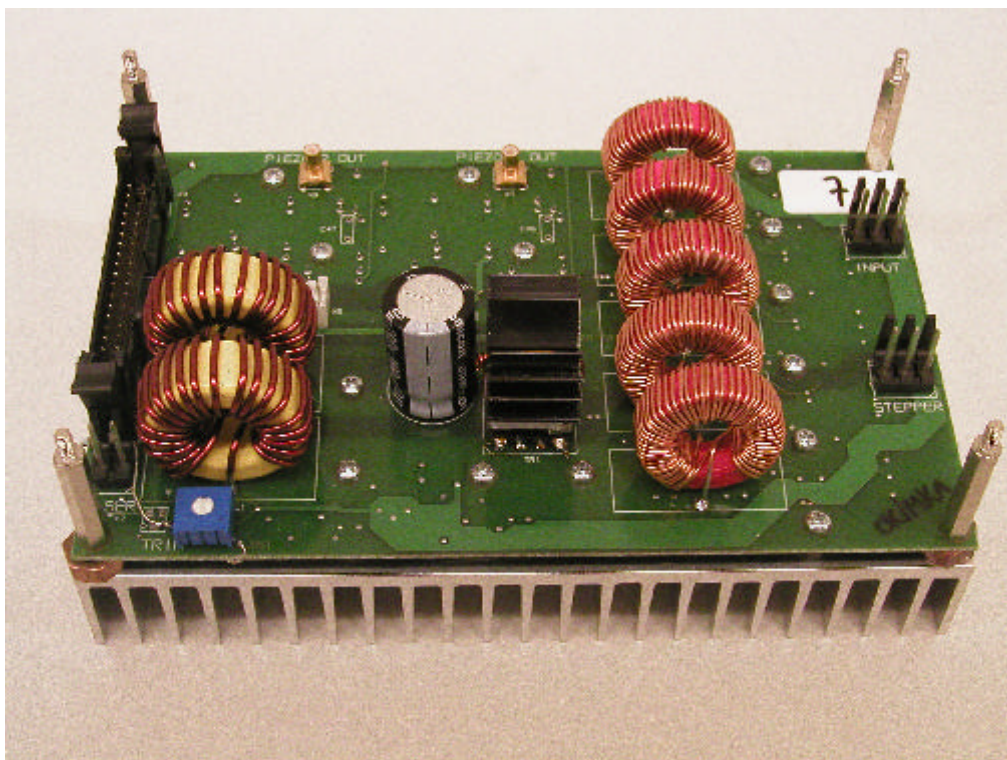
24V DC input voltage

+5V or +12V,	5A
+5V,	1A
+3.3V,	3A
-3.3V,	1A
+1,8 V,	3A
+1.2V,	3A

Most voltages may be adjusted by replacing few components

165 20 mA

2 * 0-160V piezo amplifiers



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