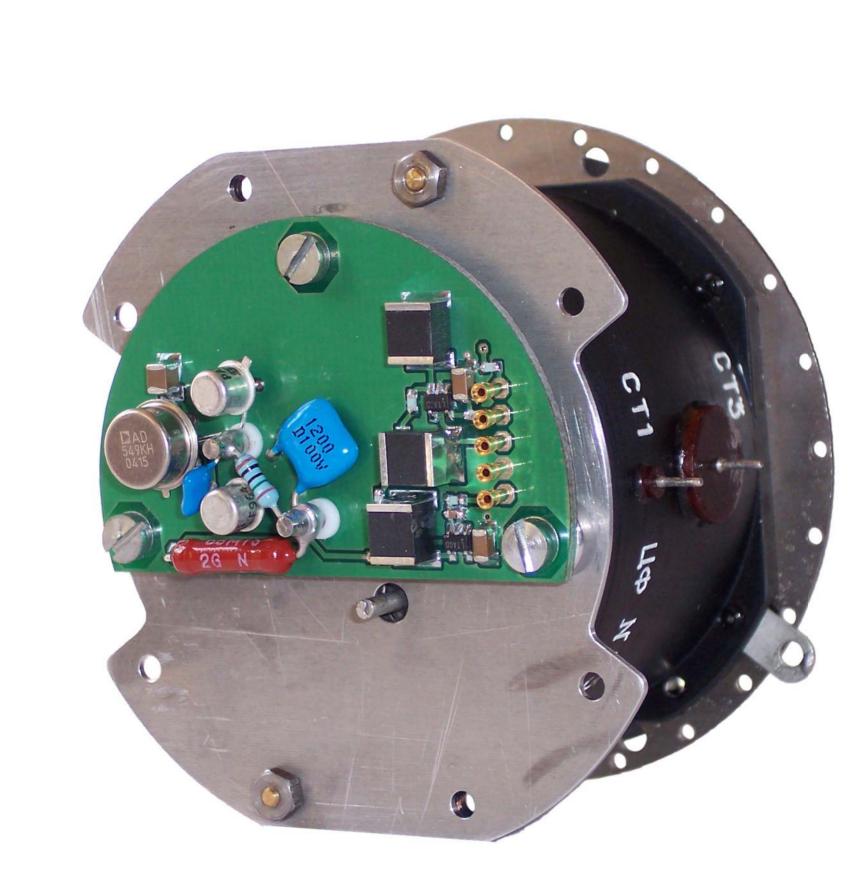


# Electronics and Software Development I N S T R U M E N T S

### About Us

CGC Instruments is a German company specialized in developing and manufacturing precise analog and digital devices which are primarily applied in scientific research. Our services include:

- Multidisciplinary scientific and technical consulting
- Design and production of customer-specific electronic devices, including complete setups
- Software development and computer simulations
- A wide range of customizable standard products



are used wherever products accuracy and reliability are required, particularly at pressures down to UHV, extreme temperatures, or high radiation given us has opportunity to participate in a number of international research projects:

acquisition developed several electronics space experiments. These include one of wind precise detectors in the world, BMSW on the spacecraft, been active since its launch in 2011.



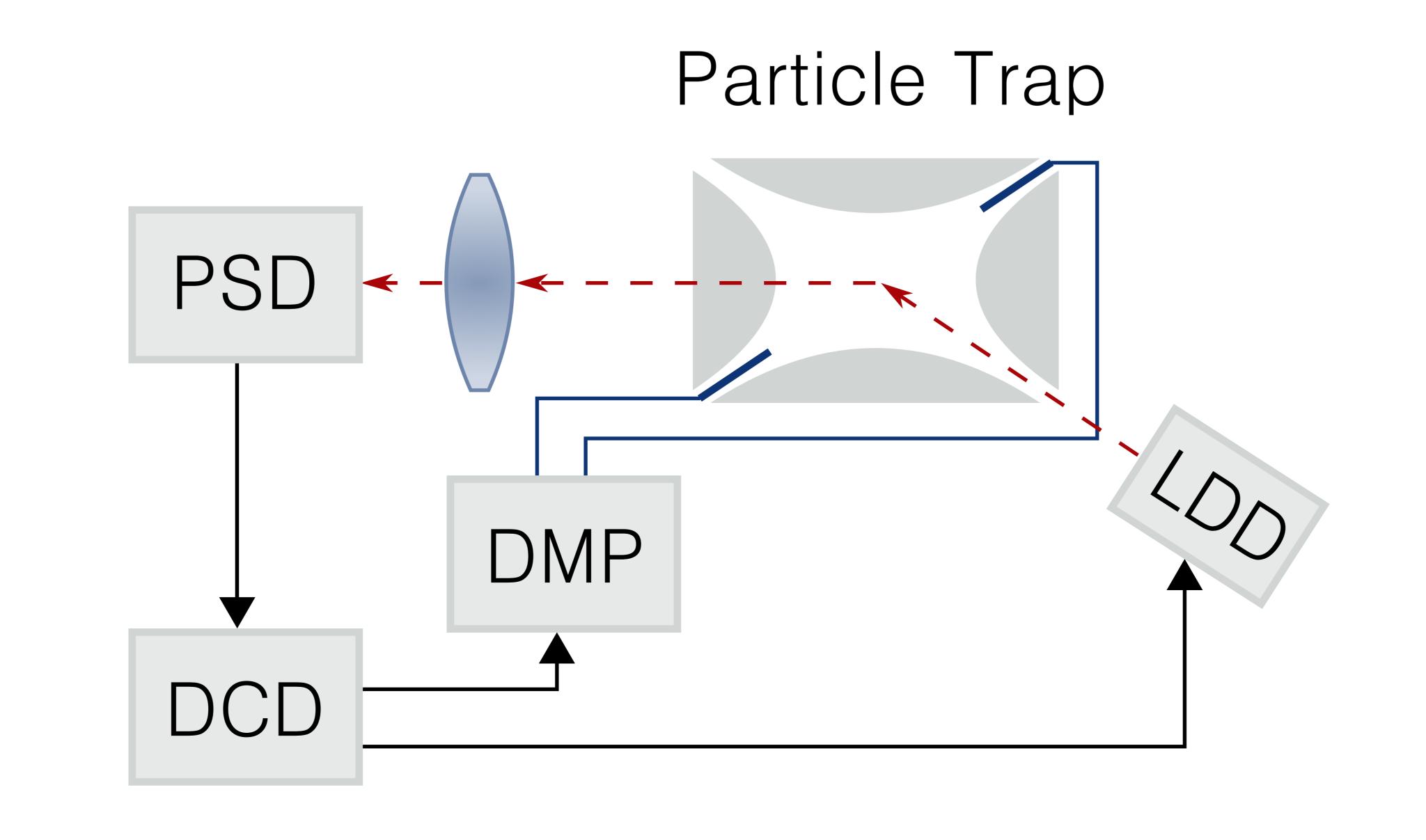
 For medical research, we are developing electronics capable of exciting acoustic vibrations in examined tissues, contributing to novel methods of general noninvasive diagnostics in MRI (with Charité in Berlin) and cancer research (EC project FORCE).

• We are currently collaborating with Fraunhofer IWU

#### Optoelectronic Systems

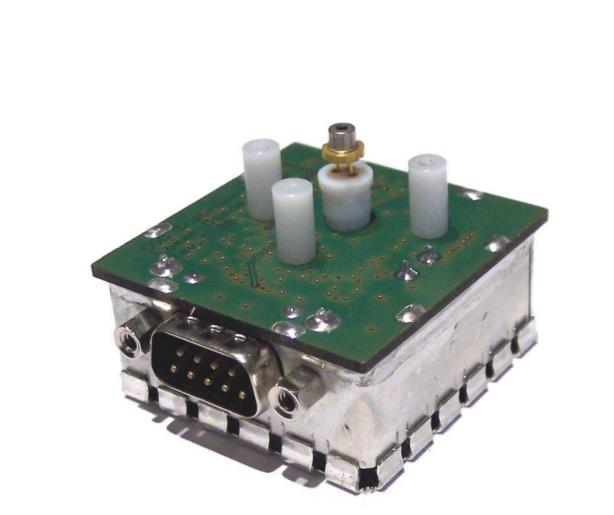
CGC Instruments offers a broad spectrum of optoelectronic components ranging from laser diode drivers or low-noise preamplifiers to highly sensitive position detectors.

We also develop complex setups, such as our optoelectronic damping system which tracks and manipulates the movement of microparticles in electrodynamic traps:





PSD (Position-Sensitive Detector): measures the microparticle's position DCD (Coordinate-Decoder Unit): obtains the coordinate signals



LDD (Laser Diode Driver): provides the pulsed light DCU (Damping-Control Unit): generates the damping signals

## Computer-Controlled Measurement Systems

Our modular Data Acquisition System (DAS) is a convenient way of implementing custom setups. It allows the user to combine various measurement and power supply modules to achieve the desired functionality.



Available modules for the DAS include:

- D/A and A/D converters
- Power supply units
- Digital I/O Data processing modules
- Programmable timers
- Counters
- Programmable logic arrays
- Combi cards

## Control of Piezoelectric Actuators

We offer a variety of amplifiers for controlling piezoelectric actuators with high capacitances:



- Our precise high-voltage amplifiers with extremely low noise and high dynamic ranges are used to control piezoelectric scanners in microscopy with subatomic resolution.
- Our high-power amplifiers can deliver output powers of up to 1 kVA required to drive large actuators at high speed.