



BK Electronics

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OEM·ODM OF MEDICAL INSTRUMENTS
BK ELECTRONICS

ODM : Continuous R&D

Our R&D team consists of researchers who have vast understanding and experience in the entire process from product design, hardware and software development, specifically researchers in the field of biology who have background in understanding and diagnosis of diseases and apply this knowledge in product development. In order to realize product functionality, including design of various medical products and development of UI, we use our own high-performance 3D printer and in-house production line to develop mock-up, test-produce and perform verification to improve the performance of developed product.

Development and Manufacturing Process



01 / Project Launch

Reviewing and setting schedule for product development
Setting product concept and direction
Idea presentation meeting
Confirmation of development specifications

02 / Product External Design

Idea concept sketch
2D & 3D Design Modeling
3D Rendering
Design evaluation and confirmation
Post-process (drawing, printing) follow-up



03 / Product Specifications Design

Design planning and cost analysis
Structural review and conformity check
Basic design and detailed design
Confirmation of final design
Confirmation and creating part list

04 / HW & SW Development

Confirmation of circuit specification and drawing of circuit diagram
Software business solution analysis and confirmation
Firmware & Software Coding
Customer validation



05 / Producing Prototype

Working Mock-up
Design Mock-up
3D printer, vacuum mold
Product supplementation
Certification and authorization

06 / Production







PCB manufacturing and SMT
Mold development and production
Production of processed products
Assembly & Test
Shipping and delivery



Immunodiagnosics RPD-1000 RPD-2000

This equipment analyzes the results of rapid diagnostic test kit, which displays the results by imaging the test line and interpreting the image according to the analysis algorithm developed by BK electronics. Quantitative and qualitative analysis are possible depending on the type of rapid diagnostic test kit.

Key Features

-  Dual-processor image processing & system control hardware
-  Image analysis algorithm using Linux environment & camera OpenCV
-  Built-in scanner for UDI
-  Reliability mechanism
-  7" touch screen display
-  User-centric interface Detachable printer

Immunodiagnosics RPD-3500 (under development)

RPD-3500 is a device that analyzes the results of the rapid diagnosis kits by imaging the test line and interpreting the image according to the analysis algorithm developed by BK Electronics. It provides quantitative and qualitative analysis, depending on the type of rapid test kit.

Key Features

-  Accurate and fast results
-  Can be connected to computer via USB
-  User-centered GUI design
-  Simple operation method - easy to use
-  Small and compact POCT device



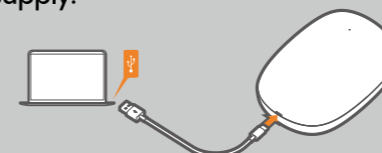
RPD-1000



RPD-2000

USB-C port

Connects to a computer to control the device, transfer test results, and for power supply.



RPD-3500

Molecular Diagnostics

IAM-1000

(under development)

IAM-1000 is designed for application to isothermal nucleic amplification reaction. It is lightweight and affordable low-cost, so it is specialized for on-site diagnosis in small hospitals and quarantine stations.

Key Features

- Compact and lightweight
- Easy to use with LED touch screen control
- Single block-up to 8 samples
- Smooth sliding system of a sample block module



IAM-1000



GEN-1800

Molecular Diagnostics

GEN-1800

This equipment quickly and accurately extracts and purifies nucleic acid(DNA, RNA) from samples such as blood for research purposes or for diagnosing diseases. Reagents required for this process are all provided in sealed cartridges.

Key Features

- Compact design that can be used not only in laboratory but also in the BSC(biological safety cabinets)
- Short preparation and fast processing time
- Simple and convenient operation and setting
- Simultaneous execution of 1-8 samples and individual control

Biochemical Diagnostics

CFU-D1

CFU-D1 is a point-of-care testing system that quickly diagnoses chronic diseases such as diabetes by measuring absorbance/reflective light using spectrophotometry, and various dedicated cartridges according to diagnostic parameters such as glycated hemoglobin (HbA1c) and C-reactive protein (CRP), etc.



CFU-D1

Biochemical Diagnostics

RPD-4000

(Under Development)

RPD-4000 Urine Analyzer is an in vitro diagnostic medical device that measures the results of urine strips, analyzes the colors on the urine test pad with its own algorithm, and presents the results.

Key Features

- Dual-processor-based high-performance measurement sensor and system control hardware
- Multi-parameter application such as absorption and reflection measurement
- Internal scanner (recognition of cartridge information including UDI through data matrix code)
- 5" touch screen display
- Thermal printer



RPD-4000

Key Features

- Accurate and fast results
- Simple and easy-to-use operation
- User-centric GUI design
- Removable test strip tray for cleaning
- Removable thermal printer