BSD600 DUET Series II

Semi-Automated Punch System

From media to process in seconds

The BSD600 DUET SERIES II is a semi-automated punch instrument designed to significantly increase the laboratory throughput of all media-derived biological samples.

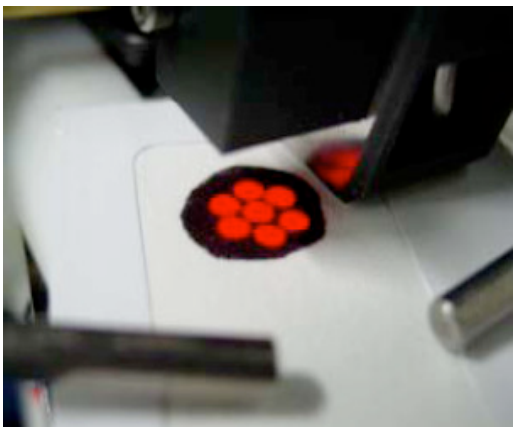
The versatile instrument can integrate into existing SOPs due to the wide combination of punch and receiving plate / tube options, enabling immediate integration without validation.

The laboratory can be completely confident in the results generated due to the many safety features built into the BSD600 Duet II as standard.

BSD600 DUET Series II Features & Functions

- **Dual Punch System**
  Designed to punch two of the same or differently sized disks at the same time.
  A range of punch configurations are available to enable immediate compatibility with validated laboratory procedures. This feature also delivers the flexibility required to address the ever-increasing challenges of modern clinical laboratories.

- **BSD Light Targeting System**
  Guides the user for total punch accuracy.
  The number of punches chosen and the size of each punch are automatically illuminated exactly at the punch site itself. This feature enables the user to punch quickly and accurately every time, delivering optimal results irrespective of spot morphology.



- **Multiple Strike Function**
  Accelerating output and time to result.
  Up to six disks can be punched either into one, or multiple wells of a receiving plate, or a duplicate plate without needing to realign the card.

- **Auto-Trigger System**
  Eliminates the need for hand / foot switches.
  Automatically detects the presence of a sample card and punches as directed by the user.

The BSD600 DUET Series II has evolved by the incorporation of valuable customer input to become the industry standard in semi-automated punch instrumentation. It delivers unrivalled speed with sample tracing functionality to significantly reduce time to result and eliminate repetitive strain injuries often associated with manual punching.

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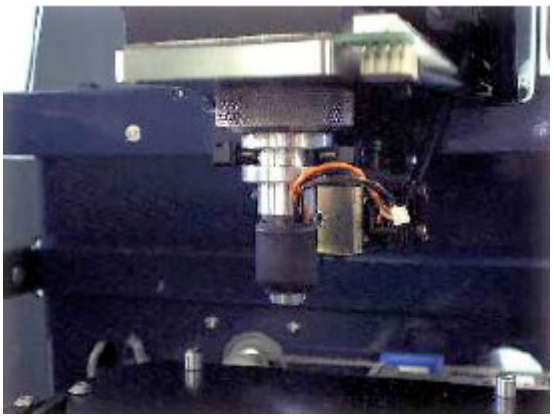
BSD600 DUET Series II
Features & Functions Continued



- **Disk Detector System**
  Delivers confidence in punching.
  Utilizing a number of sensors the instrument will recognise if a disk has not passed into the receiving well / tube and will automatically respond.

- **Low Pressure Air & Anti-Static Systems**
  Further delivers confidence in punching.
  Working in tandem with the Disk Detector System these combine to ensure the punch is delivered to the correct receiving well / tube for downstream processing.

These features combine to maintain accurate filling order on the receiving plate. This delivers confidence in the results and increases speed of throughput to data generation.

- **Punch Cleaning System and Dedicated Cleaning Receptacle.**
  Eliminates cross contamination concerns further delivering confidence in punching.
  The BSD600 DUET Series II also incorporates a Punch Cleaning System and dedicated cleaning receptacle to eliminate cross contamination issues which are of paramount importance in a clinical setting.

- **Built in Barcode Reader**
  Enables positive identification and traceability of plates, samples, controls and standards.
  This feature allows for traceability at all levels of the punching process delivering unique identification information which will travel with the punch on its journey to analysis. This feature enables the user to dissect every aspect of the process and trace every component used so as to comply with the ever-increasing regulatory requirements of a modern day laboratory.

The safety features built into the BSD600 DUET Series II as standard further strengthen its position as the benchmark in semi-automated punch instruments. These important considerations coupled with the flexibility of punch diameters and receiving plate / tube compatibilities make it an immediate and attractive answer to the constant drive to increase productivity by reducing the time to generate valuable results.

The BSD600 DUET Series II is designed specifically for low to medium throughput laboratories processing biological samples stored on media in the following disciplines:

- Neonatal Screening
- Forensic Sciences
- DNA Databanking /Biobanking
- Paternity Testing
- Transfusion Medicine
- Animal / Plant Breeding
- Molecular Diagnostics and Pharmacogenomics (personalised medicine).
- Pharmaceutical and pharmacokinetics (drug toxicology and clinical studies)
- Agriculture / Food
- Academic & Industrial Research.

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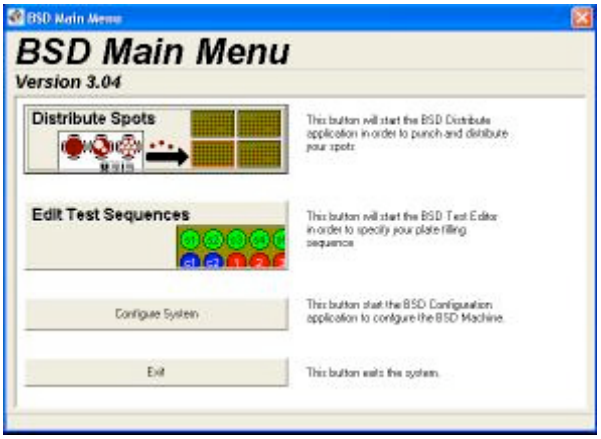
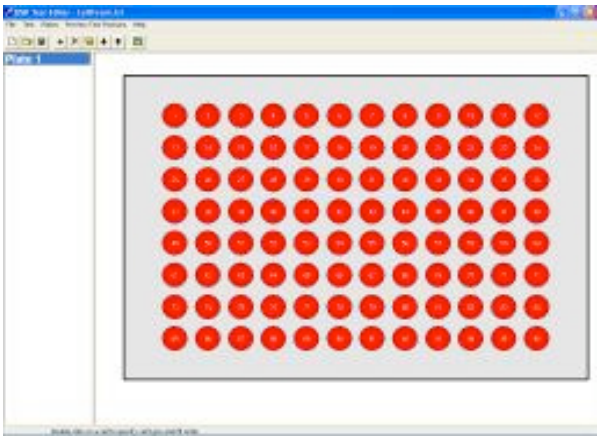
BSD600 DUET Series II
Software Capability

The **BSD600 Duet Series II** software consists of 4 modules:



- **Menu Module**
  – Controls the access to the other software modules.

  - Access to Menu Module is controlled using dedicated Supervisor and User level passwords.



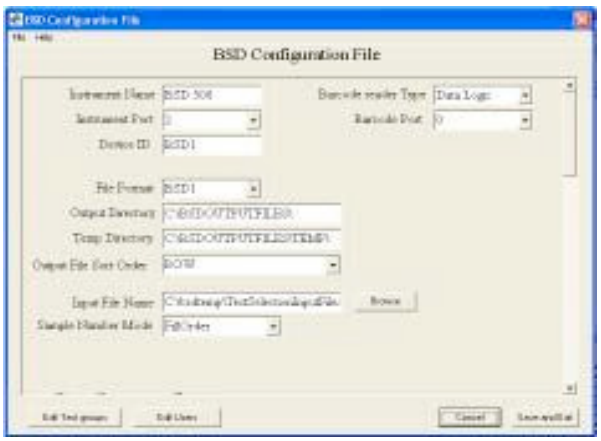
- **Test Editor Module**

  Allows for:
  - The individual tests to be defined.

  - Independent programming of punch sizes, number of disks and filling order for individual plates and wells.

  - Programming of 96-well, 384-well formats and custom designed tube adaptors.

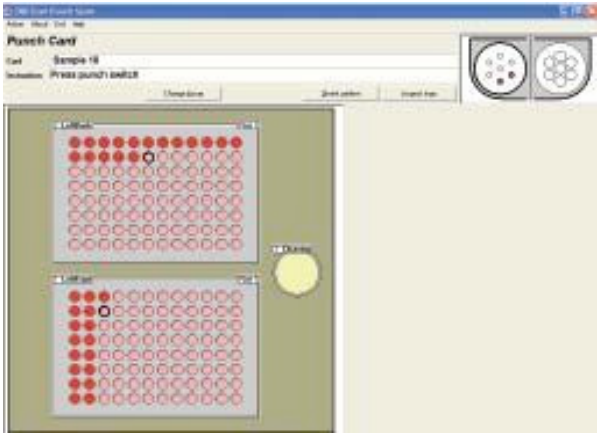
  - Access is restricted to Supervisor Level.



- **Configuration Module**
  – Used to access the predefined configuration setting for the instrument.

  - Allows for configuration setting of instrument to be determined according to requirements.

  - Access is restricted to Supervisor Level.



- **Distribution Module**
  – Used to define individual punching runs and control of the instrument.

  - Displays current status of the instrument.

Technical Specifications

1.	**Plate Capacity:**	Two Sample Bays, capable of accommodating 2 x 96 well plates, deep well plates, PCR plates, or 1 custom designed tube holder accommodating 80 x 2ml tubes
2.	**Disk Distribution Pattern for Samples; Controls, unused Wells:**	Totally flexible, independent for each plate, defined by laboratory. Computer Programmed & Controlled
3.	**Dual Punch System Combinations:**	1.2mm/1.2mm, 1.2mm/1.5mm, 1.2mm/2.0mm, 1.2mm/3.2mm, 2.0mm/3.2mm, 3.2mm/4.7mm or 3.2mm/6.0mm or any same-size combination
4.	**Mains Power Requirements:**	110-240 volts (general purpose electrical outlet)
5.	**Punch Activation:**	Auto-Trigger system or foot/hand operation
6.	**Computer Software:**	Supplied by BSD Robotics: - BSD600 Software, supplied on CD, based on Microsoft Windows 98/ME/NT/2000/XP
7.	**Computer Hardware:**	Supplied by laboratory: - IBM compatible Minimum System Requirements: - Windows 98/ME/NT/2000/XP - Pentium 800 MHz with SVGA capability - Colour monitor (Min. resolution 800 x 600) - CD ROM min 12 x speed - 1GB HD (15 MB free space) - 32 MB RAM - 1 x 9 pin serial port (RS 232 Interface) - 1 x Keyboard Wedge
8.	**Bar Coding:**	System is supplied with one barcode reader - Can be turned on and off - Operates at 5 volts
9.	**Disk Detector:**	System is supplied with a disk detector comprised of a number of sensors located in the lower section of the chute designed to detect that each disk has passed through the chute and to respond by automatically re-cycling the chute up to three times if it has not
10.	**Low Pressure Air System:**	Incorporates a low-pressure air pump. The system is designed to assist in stripping the punched disks from the cutting edge of the punch. Includes humidifier system to minimise effects of static electricity
11.	**Physical Dimensions:**	(L) 400mm x (W) 500mm x (H) 400mm, 35 kg
12.	**Bench Dimensions Required:**	Supplied by laboratory – (L) 500mm x (W) 600mm x (H) 750mm
13.	**Total Space Required:**	(L) 500mm x (W) 600mm x (H) 600mm
14.	**Installation, Commissioning & Training:**	Installation for End Users is included in the price - To be undertaken by representative of BSD Robotics - Operator training of up to 4 hours is included in the price for End Users - Provided at time of installation of instrument
15.	**Warranty:**	A 12 month Warranty is included covering parts, labour, and a maximum of three preventative maintenance visits

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