

**PACKAGE ID** - 001064BIO1000 RUR

**KWIC TITLE** - Generation of High Density Sample Array

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**LIMITATION CODE** -COPY                   **AUDIENCE CODE** - LIM

**COMPLETION DATE** - 01/01/1992   **PUBLICATION DATE** - 01/01/1992

**DESCRIPTION** - An analytical procedure was developed for manipulation of a large number of samples using the Beckman BIOMEK 1000 workstation. The RUR software was written to create a number of different script files for control of robotic movement commands, which are read and executed via the Beckman Biorun3 program. This setup has the capability of creating arrays of as many as one million samples per day.

**PACKAGE CONTENTS** - Media Directory; Software Abstract; Media Includes Source;

**SOURCE CODE INCLUDED?** - Yes

**MEDIA QUANTITY** - 1 3.5 Diskette

**METHOD OF SOLUTION** - The robot's hardware was modified to increase the number of deposition areas and decrease the dot size by altering the shape of the fluid carrier. To standardize the sizes and relative positions of the sample dots for image analysis purposes, many different robot movements are introduced. These include step-by-step withdrawal of the fluid carrier metal pins from the sample solution, a step-by-step approach to the nylon membrane in order to prevent ring-dot formation, etc. The RUR software also provides for creation of different patterns of deposited sample arrays, such as duplicates. Creation of patterns includes checking of the sample plate bar-codes, as well as recording of pattern creation (history) files for later reference.

**COMPUTER** - BIOMEK1000

**OPERATING SYSTEMS** - Beckman BIOTES3T basic operating system and DOS 5.0

**PROGRAMMING LANGUAGES** - C (30%), Basic (70%)

**SOURCE CODE AVAILABLE (Y/N)** - Y

**RELATED SOFTWARE** - Beckman's Biorun3 software for the BIOMEK 1000 robotic station

**HARDWARE REQS** - Modification of the BIOMEK 1000 as noted.

**TIME REQUIREMENTS** - Up to a million samples a day can be processed.

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ENERGY SCIENCE & TECHNOLOGY SOFTWARE CENTER  
SOFTWARE ABSTRACT

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DATE 03/12/2002

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**ABSTRACT STATUS** - Entered 8/22/95. Released AS-IS 4/09/96.

**SUBJECT CLASS CODE** - VT

**KEYWORDS** -

COMPUTER PROGRAM DOCUMENTATION  
R CODES  
SAMPLING  
ROBOTS  
COMPUTERIZED CONTROL SYSTEMS

**EDB SUBJECT CATEGORIES** -

990200 550400 420200

**SPONSOR** - DOE/EH

**PACKAGE TYPE** - AS - IS