



# Data Sheet

## ■ Affymetrix GeneChip® Operating Software (GCOS)

- Seamless Instrument Control
- Accurate Data Analysis
- Integrated Data Management
- Readily Upgradeable to Client-Server Configurations
- Support Gene Expression, Resequencing, and Genotyping Applications

Affymetrix GeneChip® Operating Software (GCOS) provides seamless control of GeneChip® Fluidics Stations and Scanners. In addition, GCOS acquires data, manages sample and experimental information, performs gene expression data analysis, and supports the GeneChip DNA Analysis Software (GDAS) for resequencing and mapping data analysis and report generation.

### Features and Benefits

#### SEAMLESS INSTRUMENT CONTROL

GeneChip® Operating Software (GCOS) enables users to operate the GeneChip® Fluidics Stations 400 and 450, GeneChip Scanner 3000, and GeneArray® 2500 Scanner. Instrument operations and errors are automatically tracked in the instrument status window for convenient troubleshooting. GCOS automatically captures barcodes and tracks experimental information to minimize the risk of mixing samples with incorrect probe array types.

#### AUTOMATIC AND ACCURATE DATA ANALYSIS

GCOS automatically acquires and analyzes image data and computes an intensity value for each probe cell. For gene expression applications, GCOS provides single or batch analysis of expression arrays. Using

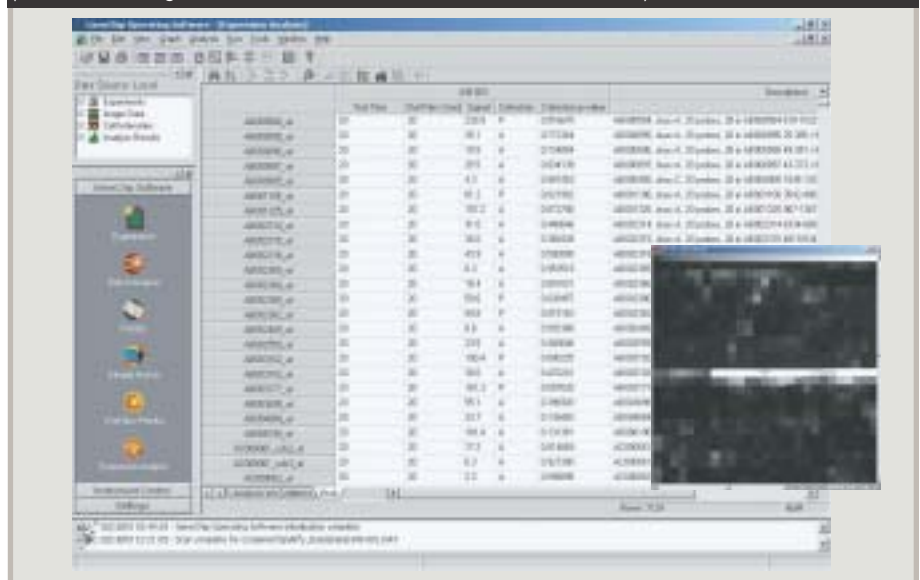
the GCOS Statistical Expression algorithm, transcripts are quantified and array data are compared to provide relative expression level changes.

For resequencing and mapping applications, GCOS enables users to access array intensity data within GeneChip DNA Analysis Software (GDAS) for further data analysis, allele calling, and report generation. For more information, please refer to the GDAS data sheet.

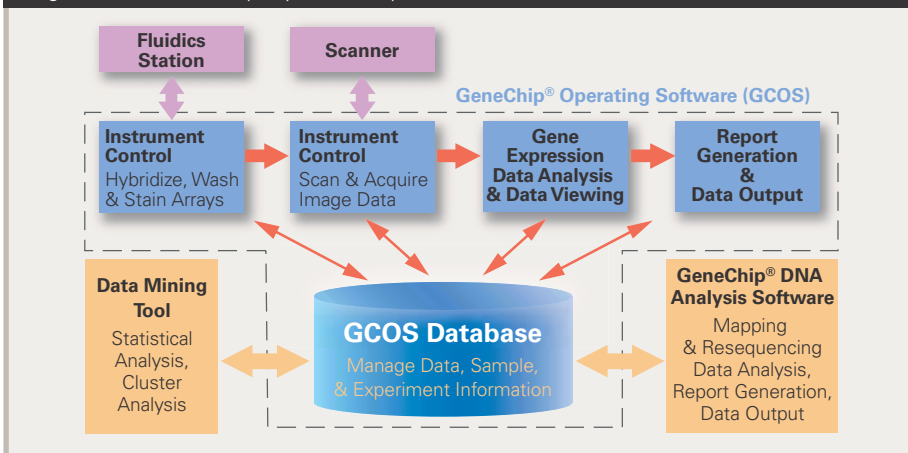
#### INTEGRATED DATA MANAGEMENT

The GCOS process database enables tracking and archiving of experiments, samples, arrays, image data, intensity data, probe analysis data, and other crucial information for easy project management. Researchers can also create multiple GCOS Publish Databases for gene expression data mining, and each database is password protected.

**Figure 1:** From image analysis to gene expression analysis to data management, GCOS provides an integrated solution which is seamless and user friendly.



**Figure 2:** The workflow diagram highlights the key components of GCOS for instrument control, data processing, and management. The software workflow is completely integrated for seamless and automated operations, and is compatible with downstream data analysis using the DMT and third-party software products.



Expression data in the Publish Database are organized in the Affymetrix® Analysis Data Model (AADM) database schema, which can be accessed and exported using Affymetrix Data Mining Tool (DMT) software.

The GCOS database is completely embedded so that users can enjoy the benefits of integrated data management without supporting a separated database product. As an option, GCOS can be upgraded to the GCOS Server client-server

configuration for large-scale data management, enhanced security, and network-based database access. Please see the GCOS Server data sheet for more information.

**RECOMMENDED COMPUTER CONFIGURATION**

- Dual 3.0 GHz Xeon Processors
- 250 GB Hard Disk
- 2 GB RAM
- Microsoft® Windows® XP Professional with Service Pack 1
- Internet Explorer 6.0

**Ordering Information**

**Affymetrix GeneChip® Operating Software (GCOS)**

**690036** Affymetrix GeneChip® Operating Software – Initial Annual License

**Specifications**

Instrument Support	<ul style="list-style-type: none"> <li>• Affymetrix GeneChip® Fluidics Station 400 &amp; 450</li> <li>• GeneChip Scanner 3000</li> <li>• GeneArray 2500 Scanner</li> </ul>
Affymetrix Software Compatibility	<ul style="list-style-type: none"> <li>• Support GeneChip DNA Analysis Software (GDAS) for mapping and resequencing data analysis</li> <li>• Support Affymetrix® Data Mining Tool software for statistical and cluster analysis</li> </ul>
Database Engine	<ul style="list-style-type: none"> <li>• Microsoft Data Engine</li> </ul>
GCOS Database	<ul style="list-style-type: none"> <li>• Process Database</li> <li>• Publish Database</li> <li>• Gene Information Database</li> </ul>
Database Management	<ul style="list-style-type: none"> <li>• GCOS Manager</li> <li>• GCOS Administrator</li> </ul>
Algorithm	<ul style="list-style-type: none"> <li>• Affymetrix Statistical Expression Algorithm</li> </ul>

**AFFYMETRIX, INC.**

3380 Central Expressway  
 Santa Clara, CA 95051 USA  
 Tel: 1-888-DNA-CHIP (1-888-362-2447)  
 Fax: 1-408-731-5441  
 sales@affymetrix.com  
 support@affymetrix.com

www.affymetrix.com

**AFFYMETRIX UK Ltd**

Voyager, Mercury Park,  
 Wycombe Lane, Wooburn Green,  
 High Wycombe HP10 0HH  
 United Kingdom  
 Tel: +44 (0) 1628 552550  
 Fax: +44 (0) 1628 552585  
 saleseurope@affymetrix.com  
 supporteurope@affymetrix.com

**AFFYMETRIX JAPAN K.K.**

Mita NN Bldg., 16 F  
 4-1-23 Shiba, Minato-ku,  
 Tokyo 108-0014 Japan  
 Tel: 81-(0)3-5730-8100  
 Fax: 81-(0)3-5730-8101  
 salesjapan@affymetrix.com  
 supportjapan@affymetrix.com

**For research use only.  
 Not for use in diagnostic procedures.**

Part No. 701462 Rev. 2  
 ©2003-2005 Affymetrix, Inc. All rights reserved. Affymetrix®, GeneChip®, ®, HuSNP®, Jaguar™, EASI™, MicroDB™, GenFlex®, CustomExpress®, CustomSeq™, NetAffx™, 'Tools to take you as far as your vision™', and 'The Way Ahead™' are trademarks owned or used by Affymetrix, Inc. Windows® is a registered trademark of the Microsoft, Corporation. GeneArray® is a registered trademark of Agilent Technologies, Inc. Software products may be covered by one or more of the following patents: U.S. Patent Nos. 5,733,729; 5,795,716; 5,974,164; 6,066,454; 6,090,555; 6,185,561; 6,188,783; 6,223,127; 6,228,593; 6,229,911; 6,242,180; 6,308,170; 6,361,937; 6,420,108; 6,484,183; 6,505,125; 6,510,391; 6,532,462; 6,546,340; 6,687,692; and other U.S. or foreign patents.