SCOUT® Column Selector

User Guide

Applied Biosystems

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WARNING

Always wear eye protection when working with solvents or any pressurized liquids.

AVERTISSEMENT

Porter toujours des protections pour les yeux lorsque vous manipulez des solvants ou tout autre liquide sous pression.

WARNING

Use this product only as specified in this document. Using this system in a manner not specified may result in injury or damage to the system.

AVERTISSEMENT

Veuillez suivre avec attention les indications figurant dans ce document lorsque vous utilisez ce produit. Un usage différent le système causer un accident ou endommager le système.

WARNING

PEEK tubing is polymeric material. Use caution when working with any polymer tubing under pressure.

1. *Always wear eye protection when in close proximity to pressurized polymer tubing.*
2. *Extinguish all nearby flames if using flammable solvents.*
3. *Do not use PEEK tubing that has been severely stressed or kinked.*
4. *Do not use PEEK tubing with tetrahydrofuran or concentrated nitric and sulfuric acids.*
5. *Methylene chloride and dimethyl sulfoxide cause PEEK tubing to swell and greatly reduce the rupture pressure of the tubing.*
6. *With high solvent flow rates (>40 ml/min), a static charge may build up on the surface of the tubing. Electrical sparks may result.*

AVERTISSEMENT

Le tubage PEEK est un matériau polymère. Prenez des précautions lorsque vous travaillez avec un tubage polymère sous pression.

1. *Porter toujours des protections pour les yeux lorsque vous vous trouvez à proximité d'un tubage polymère sous pression.*
2. *Éteindre toutes les flammes avoisinantes si vous utilisez des solvants inflammables.*
3. *Nes pas utiliser un tubage PEEK qui a déjà été sérieusement travaillé ou plié.*
4. *Nes pas utiliser un tubage PEEK avec du tétrahydrofurane ou des acides nitriques et sulfuriques concentrés.*
5. *Le chlorure de méthylène et le sulfoxyde de diméthyle entraînent un gonflement du tubage PEEK et réduisent fortement la résistance à la rupture du tubage.*
6. *Avec des débits d'écoulement de solvants élevés (>á 40 ml/min), une charge statique puet se développer sur la surface du tubage. Des étincelles électriques peuvent en résulter.*

WARNING

For continued protection against fire hazard, replace fuses with those of the same type and rating.

AVERTISSEMENT

Pour une protection permanente contre le danger d'incendie, remplacez les fusibles existants avec des fusibles similaires, présentant les mêmes caractéristiques.

WARNING

Before handling any chemicals, refer to the Material Safety Data Sheet provided by the manufacturer, and observe all relevant precautions.

AVERTISSEMENT

Avant de manipuler des produits chimiques, veuillez consulter la fiche de sécurité du matériel fournie par le fabricant, et observer les mesures de précaution qui s'imposent.

CAUTION

Failure to flush the system after daily use may result in system downtime. Refer to Section 3.6, Flushing the SCOUT Column Selector After Use, for the recommended procedure.

US Safety and EMC (Electromagnetic Compatibility) Standards

Safety

This instrument has been tested to and complies with standard ANSI/UL 3101-1, “Electrical Equipment for Laboratory Use; Part 1: General Requirements”, 1st Edition. It is an ETL Testing Laboratories listed product.

EMC

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

***Warning**: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.*

***Note**: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.*

***Note**: Shielded cables must be used with this unit to ensure compliance with the Class A FCC limits.*

Canadian Safety and EMC (Electromagnetic Compatibility) Standards

Safety

This instrument has been tested to and complies with standard C22.2 No. 151, “Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use; Part 1: General Requirements”. It is an ETL Testing Laboratories listed product.

Sécurité

Cet instrument a été vérifié avec la norme C22.2 No. 151, «Spécifications de sécurité du matériel électrique utilisé pour les mesures, les contrôles et dans les laboratoires ; Partie 1 : Spécifications générales», et il est conforme à cette norme. C’est un produit homologué par les ETL Testing Laboratories.

EMC

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le materiel brouilleur du Canada.

European Safety and EMC (Electromagnetic Compatibility) Standards

Declaration of Conformity

Application of Council Directive(s):	73/23/EEC “Low Voltage”
	89/336/EEC “Electromagnetic Compatibility”
Standard(s) to which conformity is declared:	EN61010-1 “Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use”
	EN55011:1991, Group 1, Class B “Radiated Emissions”
	EN50082-1:1991 “Generic Immunity”
Manufacturer’s Name:	Applied Biosystems
Manufacturer’s Address:	500 Old Connecticut Path
	Framingham, Massachusetts 01701 USA
Type of Equipment:	Laboratory Instrumentation
Model Name & Number:	SCOUT Column Selector
Part Number:	5-2287-00
Serial Number:	250 and later
Year of Manufacture:	1997

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How to Use This Guide

Purpose of this guide

Applied Biosystems' *SCOUT® Column Selector User Guide* contains the procedures for installing, running, maintaining, and troubleshooting the SCOUT® Column Selector.

Audience

This guide is intended for novice and experienced SCOUT Column Selector users who are developing and executing analytical and preparative separation protocols of biomolecules based on POROS® Perfusion Chromatography® media and conventional chromatography media.

Structure of this guide

Applied Biosystems' *SCOUT® Column Selector User Guide* is divided into four chapters and three appendixes.

The table below describes the material covered in each chapter and appendix.

Chapter	Content
Chapter 1, Introducing the SCOUT Column Selector	Describes the features and parts of the SCOUT Column Selector.
Chapter 2, Installing a Stand-Alone SCOUT Column Selector	Provides procedures for installing a stand-alone SCOUT Column Selector hardware and software.
Chapter 3, Using the SCOUT Column Selector	Provides procedures for plumbing, configuring, and using the SCOUT column selector, including running a method, using the column switching template, viewing Group Analysis, and flushing the SCOUT column selector after use.
Chapter 4, Maintenance and Troubleshooting	Describes maintenance procedures and includes troubleshooting information and error codes.
Appendix A, Specifications	Includes system specifications.

Chapter	Content
Appendix B, Spare Parts	Includes ordering information for spare parts.
Appendix C, Warranty/Service Information	Includes warranty information.

Conventions

This guide uses the following conventions to make text easier to understand.

General conventions

- **Bold** text indicates user action. For example:

  "Type **0** and press **Enter** for the remaining fields."

- *Italic* text denotes new or important words, and is also used for emphasis. For example:

  "Prior to operation, *always* check for eluent miscibility."

Notes, Cautions, and Warnings

A Note calls out important information to the operator. For example:

***NOTE**: Record your result before proceeding with the next step.*

A Caution provides information to avoid damage to the system or loss of data. For example:

CAUTION

Do not touch the flow cell window. This may damage the flow cell.

A Warning provides specific information essential to the safety of the operator. For example:

WARNING

Always observe safe laboratory practices when operating your system.

Remarques, recommandations et avertissements

Une remarque fournit une information importante à l'opérateur er se présente ainsi:

REMARQUE: *Si on vous demande d'insérer la disquette de démarrage dans le lecteur, insérez-la puis appuyez sur n'importe quelle touche.*

Une recommandation fournit une information destinée à éviter des détériorations du système ou la perte de données:

RECOMMANDATION

La lampe peut être endommagée. N'y touchez pas.

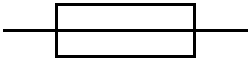
Un avertissement fournit une information indispensable à la sécurité de l'operateur et se présente ainsi:

AVERTISSEMENT

Conformez-vous toujours aux règlements du laboratoire quand vous utilisez votre système.

Symbols used on the system

The following symbol appears next to the values of the fuses required by the system.



Related documentation

Use this document in conjunction with the appropriate document for your system:

- Applied Biosystems' *BioCAD® Workstation for Perfusion Chromatography User Guide*
- Applied Biosystems' *BioCAD®/ SPRINT™ System for Perfusion Chromatography User Guide*
- Applied Biosystems' *BioCAD® 700E Workstation for Perfusion Chromatography User Guide*
- Applied Biosystems' *VISION™ Workstation for Perfusion Chromatography User Guide*
- Applied Biosystems' *INTEGRAL™ 100Q System User Guide*

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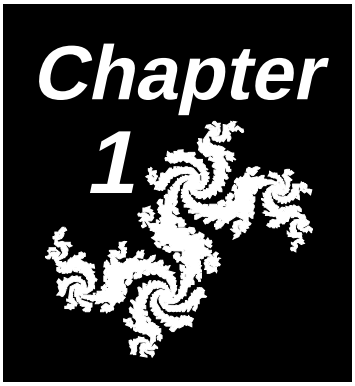
- Use the Technical Publications Customer Survey at:

  www.appliedbiosystems.com/perseptive/techsup/survey.htm

- Send e-mail to:

  techpubs@appliedbiosystems.com

1 Introducing the SCOUT Column Selector



This chapter includes the following sections:

1.1 SCOUT Column Selector Features 1-2
1.2 Parts of the SCOUT Column Selector 1-3

1

1.1 SCOUT Column Selector Features

Overview

Applied Biosystems' SCOUT® Column Selector is an automated multi-column switching unit for use with the BioCAD® family of workstations and the INTEGRAL™ 100Q System. The SCOUT Column Selector allows flow to be diverted to any one of six attached columns.

The SCOUT Column Selector offers increased flexibility for both systematic methods development and routine execution of experiments.

A new template added to your system software allows you to program columns to be switched sequentially or repeatedly depending on your application.

Features

The SCOUT Column Selector provides the following features:

- Allows you to screen a range of columns and media to systematically determine the effect of selectivity on the desired separation
- Includes column clips that are compatible with columns up to 24 mm in diameter and 30 cm in length
- Is compatible with ID™ Sensor Cartridges to allow sequential peak tracking and Poroszyme™ Immobilized Enzyme Cartridges to allow online enzymatic digestions
- On BioCAD, BioCAD 700E, and VISION systems, can be plumbed at any position in the tandem column or three column configuration to allow for automated multi-dimensional chromatography methods development

1.2 Parts of the SCOUT Column Selector

SCOUT models This document describes two SCOUT models:

- **Stand-alone**—A free-standing unit available with BioCAD/SPRINT™ Systems, BioCAD® Workstations, BioCAD® 700E Workstations, and INTEGRAL™100Q Multidimensional Biospecific HPLC Systems (Figure 1-1).

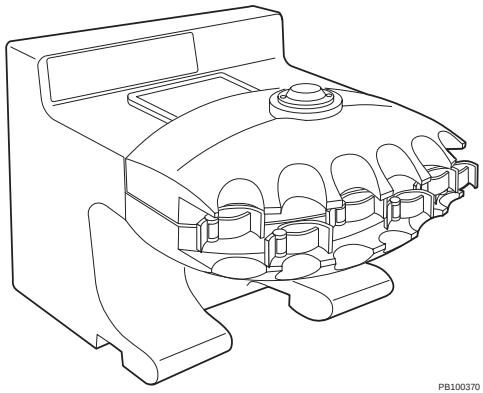


Figure 1-1 Stand-Alone SCOUT Column Selector

- **Built-in**—Part of the VISION Workstation (Figure 1-2).

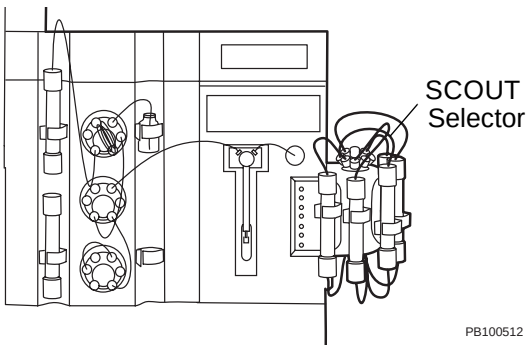


Figure 1-2 Built-In SCOUT Column Selector on VISION Workstation

1

Parts of the SCOUT

The SCOUT Column Selector includes the following parts (shown in Figure 1-3 and Figure 1-4):

- **Column clips**—Allow you to mount and secure columns easily.
- **Hinge (stand-alone model only)**—Allows you to tilt the column holder for easy access to the outlet ends of the mounted columns.
- **Valves**—Top valve and bottom valve (not shown) allow you to connect columns for switching.
- **Front panel**—Includes yellow Column LEDs that indicate the column in use and a red Fault LED that indicates a valve switching problem. The stand-alone unit also includes a green Power LED that is lit when the unit is on.

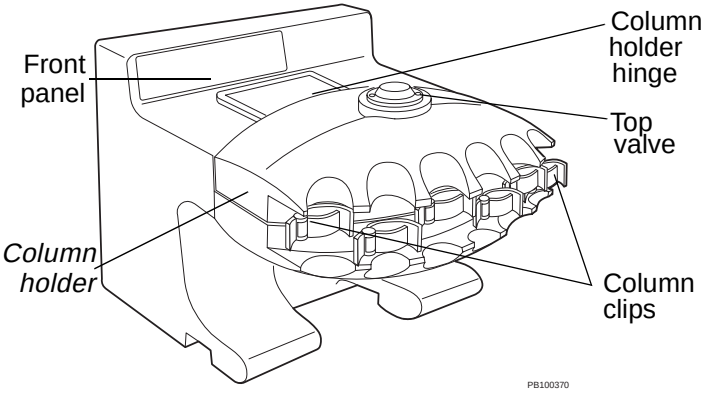


Figure 1-3 Stand-Alone SCOUT Column Selector

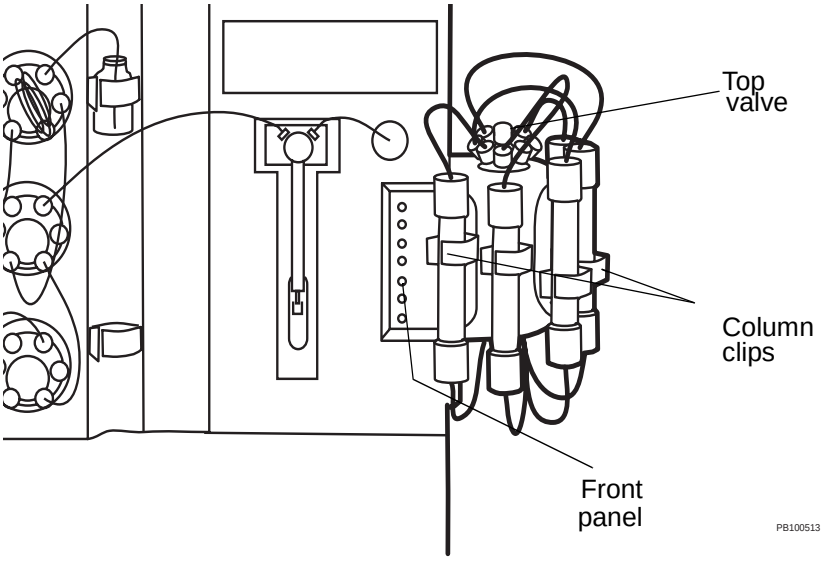
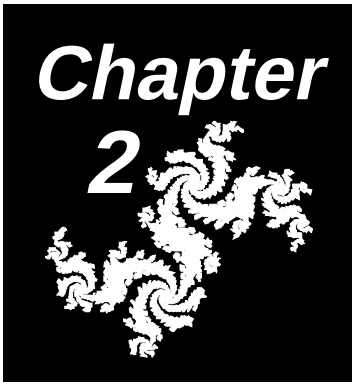


Figure 1-4 Built-in SCOUT Column Selector on VISION Workstation

1

2 Installing a Stand-Alone SCOUT Column Selector



This chapter includes the following sections:

2.1 Installing the Hardware 2-2
2.2 Installing the Software..... 2-5

NOTE: *If you have a VISION Workstation, skip this chapter. The SCOUT Column Selector is built-in to the VISION Workstation, and you do not need to connect it.*

2.1 Installing the Hardware

Power requirements

The stand-alone SCOUT Column Selector requires:

Power	115–230 Vac, 1.2 A, 50/60 Hz
Fuse	T2A, 250V, SLO-BLO™

Connecting

To connect the SCOUT Column Selector to a BioCAD, BioCAD 700E, BioCAD/SPRINT, or INTEGRAL 100Q system:

CAUTION

Power down the system to which you are connecting the SCOUT Column Selector. When the SCOUT Column Selector is connected, power up the SCOUT Column Selector first and then power up your system.

1. Place the SCOUT unit on the top left side or next to the right side of your system.
2. Power down your system.
3. If your system includes a serial mouse (connected to COM1 with a 9-pin D connector), connect the SCOUT to COM2.

   NOTE: *If you have another device connected to COM2, you must disconnect it before you connect the SCOUT.*

   If your system includes a PS/2 mouse (connected to a special port with a round connector), connect the SCOUT to COM1 or COM2.

4. Select the 9-pin or 25-pin adaptor (depending on the COM port you are connecting to) and plug it in to a COM port on your system. Figure 2-1 and Figure 2-2 show the COM ports on BioCAD systems.

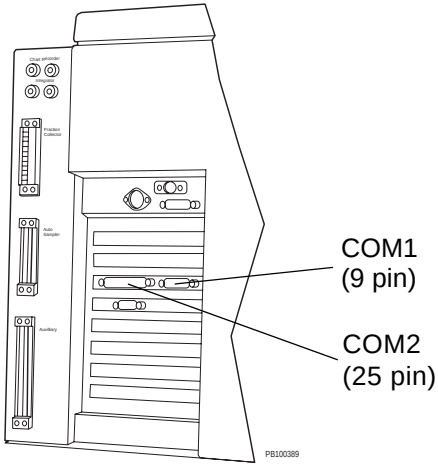


Figure 2-1 Connecting the SCOUT to a System with a PS/2 Mouse

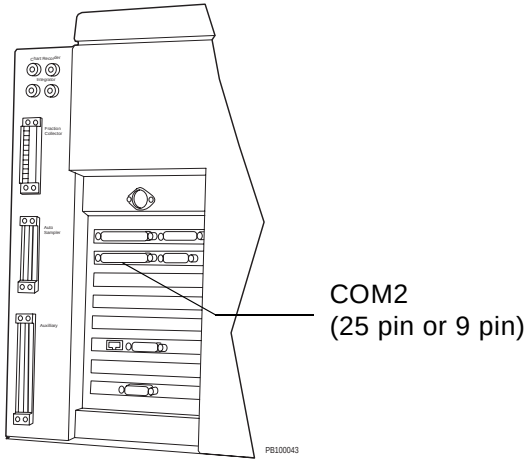


Figure 2-2 Connecting the SCOUT to a System with a Serial Mouse

NOTE: *The COM2 port may be in a different position if your system model is older than the system model shown in* Figure 2-2*.*

5. Connect the communications cable to the adaptor in the COM port.
6. Connect the other end of the communications cable to the communications port on the rear panel of the SCOUT Column Selector (Figure 2-3).

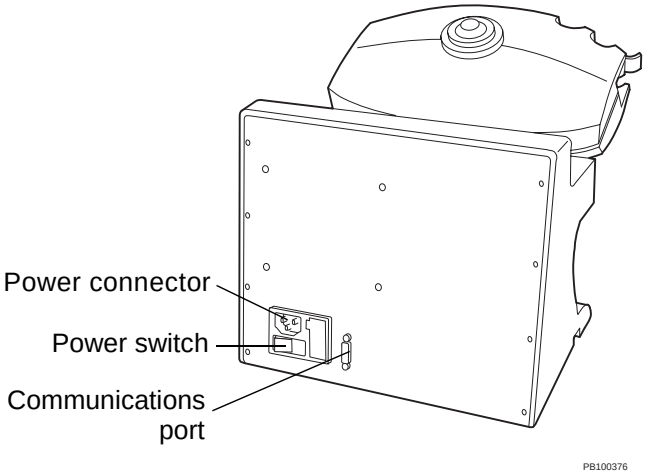


Figure 2-3 Rear Panel

7. Connect the power cord to the SCOUT Column Selector and plug it in to the electrical power source.
8. Power up the SCOUT Column Selector by pressing the power switch on the rear panel.
9. Power up your system.

2.2 Installing the Software

This section describes:

- Installing the software
- Updating the hardware configuration
- Starting the software

Installation requirements

Install the following version of software required by the SCOUT Column Selector depending on your system:

- Version 1.25 or later of BioCAD software
- Version 2.05 or later of INTEGRAL software

NOTE: *If the required version of software is already installed on your system, skip this section.*

Installing

To install the system software:

1. At the C:\> prompt, type **WIN** and press **Enter** to start Windows.
2. Insert Disk #1 in the system floppy disk drive.
3. In the Program Manager window, select **Run** from the File menu.
4. Type **A:\SETUP** and click **OK**.
5. Follow the instructions displayed on the screen.

   When the installation is complete, a message is displayed.

Updating the hardware configuration

After installing the software, update the hardware configuration to activate the SCOUT software.

To update the configuration:

1. Double-click the **Setup** icon in the BioCAD or INTEGRAL program window in the Windows Program Manager.

   The Installation dialog box is displayed.

   NOTE: *If the BioCAD or INTEGRAL program window is not displayed, select it from the Window menu in the Windows Program Manager.*

2. Click **Continue**.

   The Installation Options dialog box is displayed.

3. Select **Update Hardware Configuration** and click **Continue**.

4. Follow the directions displayed on the screen to activate the SCOUT and other hardware options for your system. Refer to the user's guide for your system for more information.

   NOTE*: If your system includes a serial mouse (connected to COM1 with a 9-pin D connector), you can connect and activate only one external device. If your system includes a PS-2 mouse (connected to a special port with a round connector), you can connect and activate two external devices.*

   When the update is complete, a Setup Succeeded message is displayed.

5. Click **OK** to leave the update program.

Starting the software

There are two ways to start your system software:

- **From the C:\> prompt**—If you exit Windows, you can start the software from the C:\> prompt.

  Depending on your system, type **WIN BIOCAD** or **WIN INTEGRAL** to start the system software.

  NOTE: *To start Microsoft Windows without starting the BioCAD or INTEGRAL software, type* ***WIN****.*

- **From the Windows Program Manager**—When you power up the system or exit the BioCAD software, double-click the **BioCAD** or **INTEGRAL** icon to start the software (Figure 2-4).

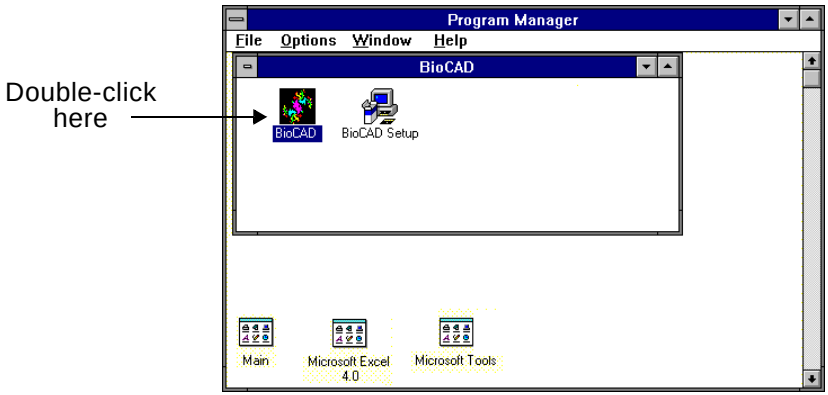
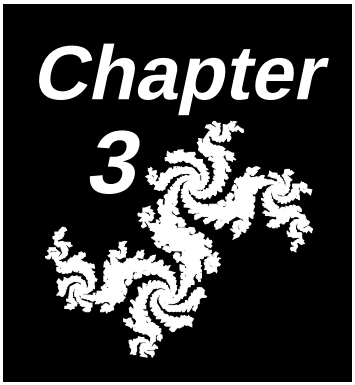


Figure 2-4 Program Manager with BioCAD Icon

NOTE: *If the BioCAD or INTEGRAL program window is not displayed, select it from the Window menu in the Windows Program Manager.*

The Control Panel is displayed when you start up the software.

NOTE: *The software automatically checks to make sure that at least 5% of your system hard drive is free. If the space is inadequate, a warning is displayed. You can exit the software and delete files from the hard drive to make more room.*



3 Using the SCOUT Column Selector

This chapter includes the following sections:

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3.2 Configuring the SCOUT Columns..... 3-7

3.3 Running a SCOUT Method 3-9

3.4 Using the Column Switching Template ... 3-12

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3.6 Flushing the SCOUT Column Selector After Use 3-15

3.1 Plumbing the SCOUT Column Selector

This section describes:

- Preparing SCOUT hex nut fittings
- Connecting columns to the SCOUT Column Selector
- Plumbing the SCOUT Column Selector to your system

3.1.1 Preparing SCOUT Hex Nut Fittings

Use hex nut fittings supplied in the Hex Nut Fittings Kit to connect tubing to the 7-valve ports on the top and bottom of the SCOUT Column Selector.

To connect the SCOUT hex nut fittings to tubing:

1. Slip a compression fitting over the end of the tubing.
2. Slip a ferrule over the end of the tubing, with the tapered end pointing away from the compression fitting. Make sure at least 1/8-inch of tubing extends beyond the ferrule (Figure 3-1).

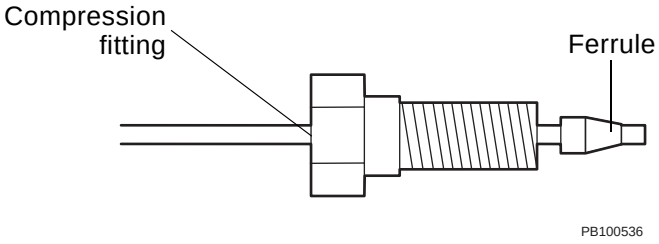


Figure 3-1 Connecting SCOUT Hex Nut Fittings to Tubing

3. Insert tubing with attached ferrule into the union (provided in the Hex Nut Fitting Kit). Insert the tubing until the end is pressed against the inside of the union.
4. Use the 1/4-inch hex socket wrench (provided in the Hex Nut Fitting Kit) to tighten the compression fitting until snug.
5. Loosen the compression fitting and remove the tubing from the union.

   Check that the ferrule is tight enough on the tubing that it does not slide off.

3.1.2 Connecting Columns to the SCOUT Column Selector

To connect columns to the SCOUT Column Selector:

1. Place the columns in the column clips.
2. Connect the columns to the top SCOUT valve using the fittings prepared in the previous section. See Figure 3-2. Refer to the user's guide for your system for more detailed information on fittings for your system.

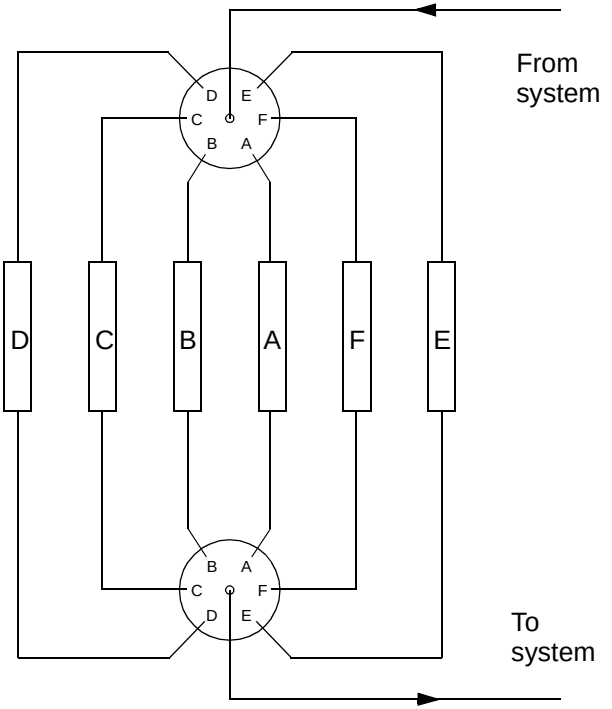


Figure 3-2 SCOUT Plumbing Diagram

3. Plumb high-pressure unions in any positions without columns to prevent accidental leakage if a position without a column is selected.

4. If you have a stand-alone SCOUT Column Selector, you can tilt the column holder to access the bottom of the column selector (Figure 3-3):

    - Hold the bottom of the unit while pulling the column holder toward you
    - Pivot the column holder up until it seats in a tilted position
    - Pull the tilted column holder toward you until it drops down and locks in the tilted position

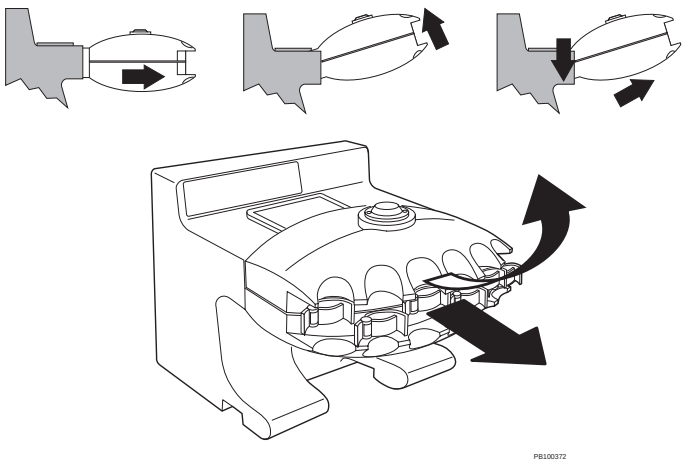


Figure 3-3 Tilting the Stand-Alone Column Holder

5. Connect the columns to the bottom SCOUT valve using the fittings prepared in the previous section.

    Refer to Figure 3-2 for tubing connections.

6. Connect the center ports on the top and bottom valves to the system as shown in Figure 3-2.

3.1.3 Plumbing the SCOUT Column Selector to Your System

The connections to and from your system depend on the column configuration (single column, tandem column, three column) of your system.

To determine the appropriate connections to plumb the SCOUT unit to your workstation, refer to:

- Figure 3-2
- Plumbing diagram specific for your system
- User guide for your system

3.2 Configuring the SCOUT Columns

Edit the configuration of your workstation to specify the SCOUT Column Selector and its columns.

From the Control Panel:

1. Select **Edit Config** from the Config menu.

   The Configuration dialog box is displayed. Figure 3-4 shows the Plumbing section of the Configuration dialog box.

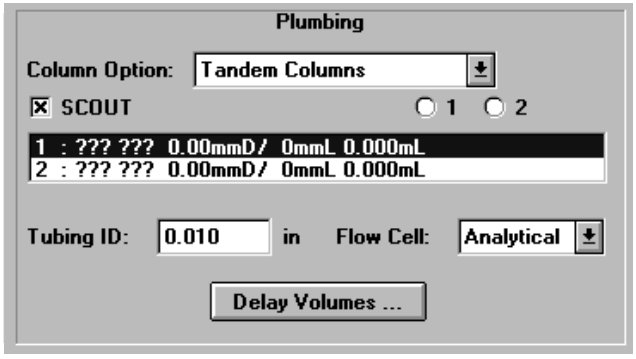


Figure 3-4 Plumbing in Configuration Dialog Box

***NOTE**: The SPRINT Configuration dialog box does not include the Column Option field.*

2. Select the **SCOUT** checkbox.

3. If you are using a BioCAD/SPRINT system, skip to step 4.

   If you are using a BioCAD, BioCAD 700E, VISION, or INTEGRAL 100Q system:

   - Under the plumbing heading, select a **Column Option**.
   - Select the column position to which the SCOUT device is configured, if necessary.

4. Select the required columns from the column library scroll list.

If the column is ...	Then ...
not connected to the SCOUT Column Selector (columns with numbers only, for example, 1, 2, 3)	• double-click on the column line • select the appropriate column from the column library and then click **OK**
connected to the SCOUT (columns with numbers and letters, for example, 1A, 1B, 1C)	for each column: • determine the column type connected to the position that you are configuring • double-click the position you are configuring on the column line and select the appropriate column from the column library • click **OK**

5. Configure the rest of the settings as needed. Refer to the user's guide for your system for more information.
6. Click **OK** when the configuration is complete.

3.3 Running a SCOUT Method

To run a method using the SCOUT Column Selector, you create a method and perform the following steps:

- Specify the initial SCOUT column state in the general settings
- Add a SCOUT event to the method to switch columns

Refer to the user's guide for your system for more detailed information about creating methods.

3.3.1 Editing General Settings

To edit the General Settings of a method:

1. Select **Method Editor** from the Window menu.
2. Double-click the **General Settings** line in the method.

   The General Settings dialog box is displayed. The choices available depend on the column configuration on your system. Figure 3-5 shows the BioCAD General Settings dialog box.

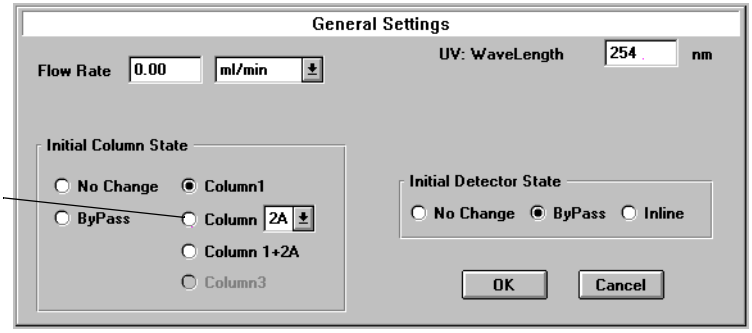


Figure 3-5 BioCAD General Settings Dialog Box

3. Select the Initial Column State.

   If you select a SCOUT column position, select the SCOUT column to use from the drop-down list box.

4. Set the rest of the General Settings as needed. Refer to the user's guide for your system for more information.

5. Click **OK**.

3.3.2 Adding a SCOUT Event

You can add a SCOUT event to any segment of your method to switch columns.

1. Select the **segment** in the Method Editor window.

2. Click **Add Event**.

   The Add Event dialog box is displayed (Figure 3-6).

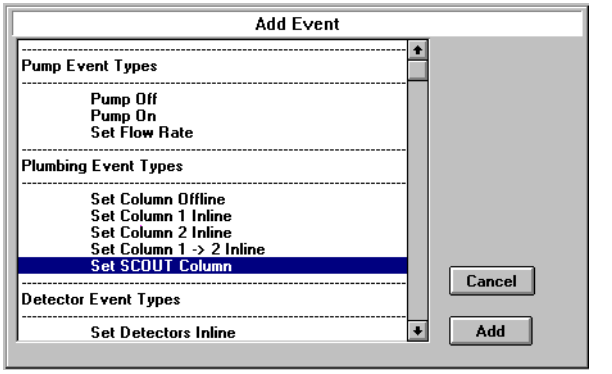


Figure 3-6 Add Event Dialog Box

3. Select **Set SCOUT Column** and click **Add**.

   The Set SCOUT column dialog box is displayed (Figure 3-7).

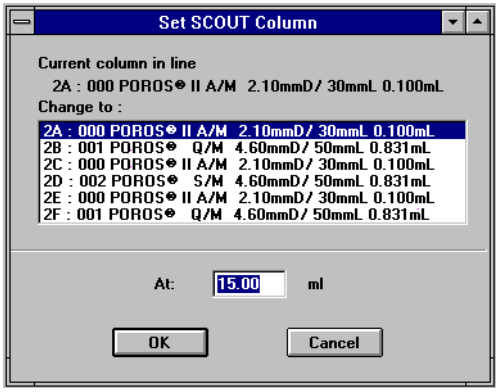


Figure 3-7 Set SCOUT Column Dialog Box

4. Select the column from the Change To list box.
5. Type the **time**, **volume**, or **CV** value in the At text box. The units depend on the units of the selected segment.
6. Click **OK**.

   The event is inserted into the method.

7. Select **Save** from the File menu to save the method.

3.4 Using the Column Switching Template

After you create a method, you can use the column switching template to run your method. To run the template from the Method Editor window, perform the following procedure:

1. Select **Column Switching** from the Templates menu.

   The Column Switching Template dialog box is displayed (Figure 3-8).

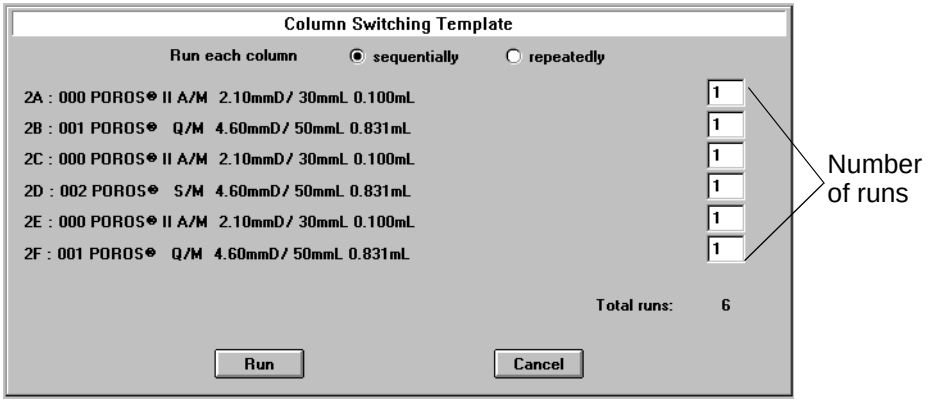


Figure 3-8 Column Switching Template Dialog Box

2. Click the appropriate option:

If you want to ...	Then click ...
use each column for one run before switching to the next column	**sequentially**

If you want to ...	Then click ...
use the same column for the specified number of runs before switching to the next column	**repeatedly**

For example, if you specify 3 runs for column 2A, 2 runs for column 2B, and 1 run for column 2C, the columns will be switched in the sequence shown in Table 3-1.

Table 3-1 Run Sequence

Sequentially		Repeatedly	
Run	**Column**	**Run**	**Column**
1	2A	1	2A
2	2B	2	2A
3	2C	3	2A
4	2A	4	2B
5	2B	5	2B
6	2A	6	2C

3. Enter the number of runs for each column.
4. Click **Run**.

   The template runs.

3.5 Viewing Data

When you view data files generated using the SCOUT column selector, information about the column is included in the file title.

The title includes the file name, the position of the column on the SCOUT, and column identification.

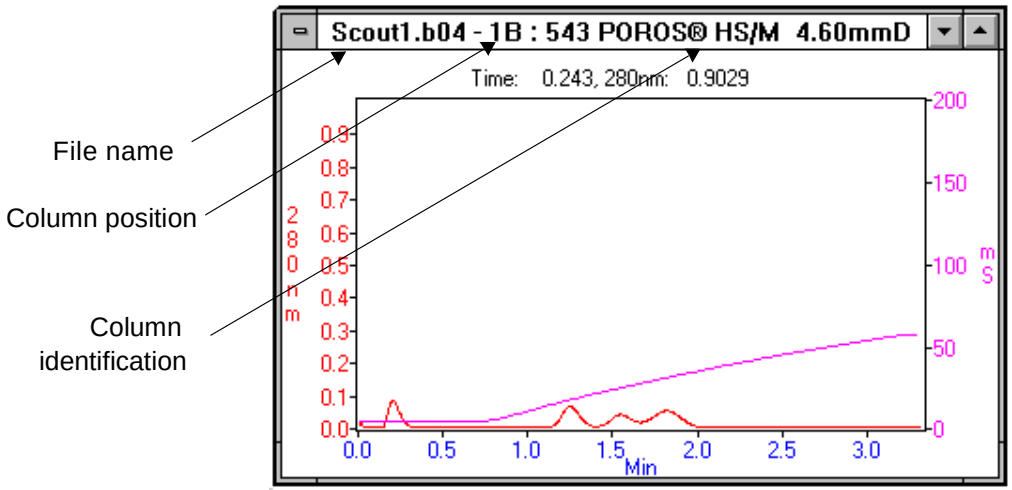


Figure 3-9 SCOUT Data Files

3.6 Flushing the SCOUT Column Selector After Use

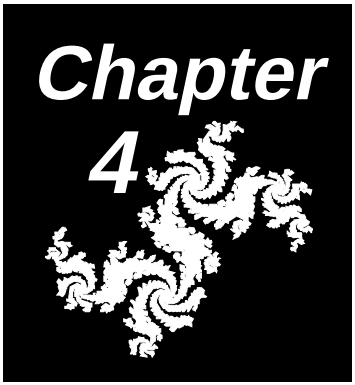
Flush the SCOUT Column Selector with water before you shut down your system. Flushing prevents salt buildup in the valves.

1. Remove the columns from the SCOUT device and replace them with unions.
2. Place the buffer/solvent lines in deionized water.
3. Create a method to flush each SCOUT column position with 20 ml of deionized water. An example method is shown in Figure 3-10.

Elapsed	Block	Event
		General Settings: Set SCOUT Column 1A : ??? ??? 0.00mmD/ 0mmL 0.000mL
		General Settings: UV Detector Wavelength = 254 nM
		General Settings: Flow Rate = 0.00 ml/min
		Pump On
0.00	min	Method Start
0.00	min	[01] Wash Block
0.00	min	(A) WARNING: Failure to remove columns may result in damage to some columns
0.00	min	0.00 min Set Solvent Blend 100% A:H2O
0.00	min	0.00 min Display Message Event "Replace all Scout Columns with Unions"*
0.10	min	0.10 min Set Flow Rate = 20.00 ml/min*
1.00	min	1.00 min End Solvent Blend 100% A:H2O
1.00	min	
1.00	min	(B) Step Segment
1.00	min	0.00 ml Set Solvent Blend 100% A:H2O
1.00	min	0.00 ml Set SCOUT Column 1B : ??? ??? 0.00mmD/ 0mmL 0.000mL*
2.00	min	20.00 ml End Solvent Blend 100% A:H2O
2.00	min	
2.00	min	(C) Step Segment
2.00	min	0.00 ml Set Solvent Blend 100% A:H2O
2.00	min	0.00 ml Set SCOUT Column 1C : ??? ??? 0.00mmD/ 0mmL 0.000mL*
3.00	min	20.00 ml End Solvent Blend 100% A:H2O
3.00	min	
3.00	min	(D) Step Segment
3.00	min	0.00 ml Set Solvent Blend 100% A:H2O
3.00	min	0.00 ml Set SCOUT Column 1D : ??? ??? 0.00mmD/ 0mmL 0.000mL*
4.00	min	20.00 ml End Solvent Blend 100% A:H2O
4.00	min	
4.00	min	(E) Step Segment
4.00	min	0.00 ml Set Solvent Blend 100% A:H2O
4.00	min	0.00 ml Set SCOUT Column 1E : ??? ??? 0.00mmD/ 0mmL 0.000mL*
5.00	min	20.00 ml End Solvent Blend 100% A:H2O
5.00	min	
5.00	min	(F) Step Segment
5.00	min	0.00 ml Set Solvent Blend 100% A:H2O
5.00	min	0.00 ml Set SCOUT Column 1F : ??? ??? 0.00mmD/ 0mmL 0.000mL*
6.00	min	20.00 ml Pump Off*
6.00	min	20.00 ml End Solvent Blend 100% A:H2O

Figure 3-10 Method for Flushing SCOUT

4. Select **Run Method** from the File menu.



4 Maintenance and Troubleshooting

This chapter includes the following sections:

4.1 Maintenance 4-2
4.2 Troubleshooting 4-4

4.1 Maintenance

Replacing the fuse

Use the following procedure to replace the fuse in a stand-alone SCOUT Column Selector.

1. Power down the SCOUT Column Selector.
2. Remove the power cord.
3. Pry out the fuse block using a small flat-blade screwdriver (Figure 4-1).

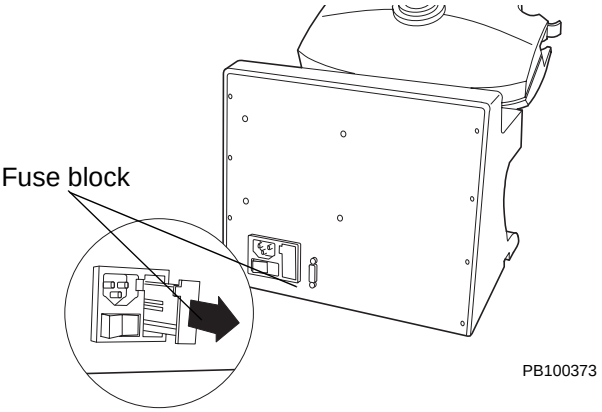


Figure 4-1 Replacing the Fuse

WARNING

For continued protection against fire hazard, replace fuses with those of the same type and rating.

AVERTISSEMENT

Pour une protection permanente contre le danger d'incendie, remplacez les fusibles existants avec des fusibles similaires, présentant les mêmes caractéristiques.

4. Remove the fuse and replace with a 2-amp fuse.
5. Replace the fuse block.
6. Replace the power cord.
7. Power up the device.

4.2 Troubleshooting

This section contains troubleshooting information for:

- Front Panel LEDs
- Error codes

Technical support

If you are unable to solve problems using the guidelines in the following sections, call Applied Biosystems Technical Support. Refer to the back cover of this document for the appropriate office.

4.2.1 Front Panel LEDs

The front panel LEDs indicate the status of the system. The following chart describes the functions of the LEDs.

Symptom	Possible Cause	Action
LEDs off (yellow)	No electrical power	Ensure device is plugged in to power source.
	Faulty fuse	Replace fuse. See “Replacing the fuse” on page 4-2.
Fault light on (red)	Valves unable to switch positions ***NOTE:*** *An intermittently lit Fault light indicates a mechanical problem. Call Applied Biosystems Technical Support.*	Use the Control Panel to manually switch the valves. If the error occurs again, call Applied Biosystems Technical Support.

4.2.2 Error Codes

Error codes may be displayed in the software during system operation. Codes are also displayed in the Event Log window. See the user guide for your system for more information about the event log. Error codes associated with the SCOUT Column Selector are listed in Table 4-1.

Table 4-1 Error Codes

Symptom	Possible Cause	Action
SCOUT [COM 2]: Failed to Respond	Communications error	Verify cables and connectors are connected properly. See Chapter 2, Installing a Stand-Alone SCOUT Column Selector.
	SCOUT device is not powered up	Power up SCOUT device.
	Device not connected to workstation	Verify cables and connectors are connected properly. See Chapter 2, Installing a Stand-Alone SCOUT Column Selector.
	Defective cables or connectors	Inspect cables and connectors and replace if necessary.

Table 4-1 Error Codes (Continued)

Symptom	Possible Cause	Action
SCOUT [COM 2]: Reported 0 positions, Expected 6	Communications error	Verify cables and connectors are connected properly. See Chapter 2, Installing a Stand-Alone SCOUT Column Selector.
	Device not connected to workstation	Verify cables and connectors are connected properly. See Chapter 2, Installing a Stand-Alone SCOUT Column Selector.
	Defective cables or connectors	Inspect cables and connectors and replace if necessary.
SCOUT [COM 2]: could not transmit initialization (1)	Communications error	Call Applied Biosystems Technical Support.
SCOUT [COM 2]: did not receive valid response	Communications error	Verify cables and connectors are connected properly. See Chapter 2, Installing a Stand-Alone SCOUT Column Selector.
	Wrong firmware version	Call Applied Biosystems Technical Support.
SCOUT [COM 2]: Valve Stuck Near Position n	SCOUT device is malfunctioning	Power the SCOUT Column Selector on and off and restart the software. See “Starting the software” on page 2-7.
SCOUT [COM 2]: Valve Stuck In Position n	SCOUT device is malfunctioning	Power the SCOUT Column Selector off and on and restart the software. See “Starting the software” on page 2-7.

Table 4-1 Error Codes (Continued)

Symptom	Possible Cause	Action
Comm Port Conflict: <device name> Requested Comm Port n. That port is already owned by SCOUT.	Same communications port specified for SCOUT and another device	Reinstall the software, performing a full installation. See Section 2.2, Installing the Software.

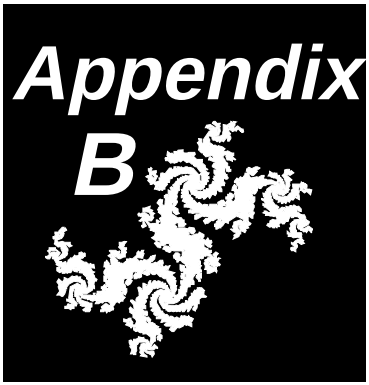
A Specifications

This Appendix includes specifications for the SCOUT Column Selector.

Table A-1 General Specifications

Property	Specification
Valve body/fluid paths	PEEK, carbon-filled PEEK, PTFE, or HMW polyketone
Maximum pressure	3,000 psi
Back pressure	<100 psi at 60 ml/min for each line
Column sizes	Up to 24 mm diameter and up to 30 cm length
Column selection	Access time: • Column-to-column <100 msec • Random access <200 msec
Plumbing	1/16-inch Valco fittings

Property	Specification
Dimensions	9.5 in. W x 12 in. L x 8 5/16 in. H (24.1 cm W x 30.5 cm L x 2 1.1 cm H)
Weight	10 lb. (4.5 Kg)
Power requirements	100V/120V/220V/240V Universal 50/60 Hz ac 1.2 amps
Fuse rating	2-amp SLO-BLO™
Operating temperature	4 to 40°C
Operating humidity	10 to 90% non-condensing



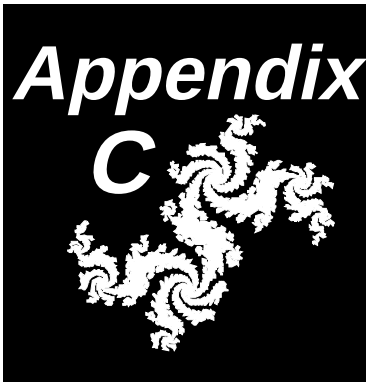
B Spare Parts

This appendix contains part numbers for SCOUT® Column Selector spare parts.

Table B-1 Spare Parts

Item	Part Number
SCOUT Fitting Kit Contains: Fittings Ferrules	P5-2208-00-5100
BioCad Fuse Kit, 2 amp SLO-BLO™	P5-1953-02-0000

B



C Warranty/Service Information

Applied Biosystems supplies or recommends certain configurations of computer hardware, software, and peripherals for use with its instrumentation. Applied Biosystems reserves the right to decline support for or impose charges for supporting nonstandard computer configurations or components that have not been supplied or recommended by Applied Biosystems. Applied Biosystems also reserves the right to require that computer hardware and software be restored to the standard configuration prior to providing service or technical support. For systems such as VISION™, BioCAD™, SPRINT™, or INTEGRAL™ which have built-in computers, installing unauthorized hardware or software may void the Warranty or Service Plan.

C.1 Limited Product Warranty

Limited warranty

Applied Biosystems warrants that all standard components of its new instrument workstations will be free of defects in materials and workmanship for a period of ninety (90) days. Applied Biosystems will repair or replace, at its discretion, all defective components during this warranty period. After this warranty period, repairs and replacement components may be purchased from Applied Biosystems at its published rates. Applied Biosystems also provides service agreements for post-warranty coverage. Applied Biosystems reserves the right to use new, repaired, or refurbished instruments or components for warranty and post-warranty service agreement replacements. Repair or replacement of products or components under warranty does not extend the original warranty period.

Applied Biosystems warrants that all optional accessories supplied with its instrument workstations, such as peripherals, printers, and special monitors, will be free of defects in materials and workmanship for a period of ninety (90) days. Applied Biosystems will repair or replace, at its discretion, defective accessories during this warranty period. After this warranty period, Applied Biosystems will pass on to the buyer, to the extent that it is permitted to do so, the warranty of the original manufacturer for such accessories.

With the exception of consumable and maintenance items, replaceable products or components used on the instrument are themselves warranted to be free of defects in materials and workmanship for ninety (90) days.

Applied Biosystems warrants that chemicals and other consumable products will be free of defects in materials and workmanship when received by the buyer, but not thereafter, unless otherwise specified in documentation accompanying the product.

Applied Biosystems warrants that for a period of ninety (90) days from the date of installation, the software designated for use with the product will perform substantially in accordance with the function and features described in its accompanying documentation when properly installed on the product. Applied Biosystems does not warrant that the operation of the instrument or software will be uninterrupted or error free. Applied Biosystems will provide any software corrections or “bug-fixes” if and when they become available, for a period of ninety (90) days after installation.

Warranty period effective date

Any applicable warranty period under these sections will begin on the date of installation for hardware and software installed by Applied Biosystems personnel, unless that date has been delayed at the buyer's request. In that case, and for all hardware and software installed by the buyer, and for all other products, the applicable warranty period begins the date the component is received by the buyer.

Warranty exceptions

The above warranties shall not apply to defects resulting from misuse, neglect, or accident, including without limitation: operation with incompatible solvents or samples in the system; operation outside of the environmental or use specification instructions for the product or accessories; performance of improper or inadequate maintenance by the user; installation of software or interfacing not supplied by Applied Biosystems; and modification or repair of the product or the software not authorized by Applied Biosystems.

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C.2 Damages, Claims, Returns

Damages Unpack shipments promptly after receipt to check for any concealed damage.

If you discover damage, stop unpacking. Contact the shipping carrier and request inspection by a local agent. Secure a written report of the findings to support any claim. Do not return damaged goods to Applied Biosystems without first securing an inspection report and contacting Applied Biosystems Technical Support for a Return Authorization (RA) number.

Claims After a damage inspection report is secured, Applied Biosystems will supply the replacements and process claims that are initiated by either party.

Returns Do not return any material without prior notification and authorization.

If for any reason it becomes necessary to return material to Applied Biosystems, contact Applied Biosystems Technical Support or your nearest Applied Biosystems subsidiary or distributor for a return authorization (RA) number and forwarding address. Place the RA number in a prominent location on the outside of the shipping container, and return the material to the appropriate address.

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