

AB Library Builder™ System

Site Preparation Guide

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About This Guide

How to use this guide

Purpose of this guide	This guide provides the information you need to fully prepare your site for the arrival and installation of the Applied Biosystems AB Library Builder™ Device.
Audience	This guide is intended for the personnel who will schedule, manage, and perform the tasks required to prepare your site for installation of the AB Library Builder™ Device. Note: Safety alert words also appear in user documentation. For more information, see “Safety alert words” on page 28.

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Site Preparation Tasks

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AB Library Builder™ System overview

System components The Applied Biosystems AB Library Builder™ System includes the:

- AB Library Builder™ Device
- Power cord (for U.S./Canada/Taiwan/Japan, Europe, or U.K.)
- Cartridge rack
- Tip and tube rack
- Bottom tray
- Protocol card (shipped with the instrument although not included in the instrument packing list)
- Tips and tip holders (52 sets)
- Empty reagent cartridges (13) for test runs or training.

Note: Do not fill the empty reagent cartridges when performing test runs or training.

- Silicon grease
- D-rings (13)
- 6.3-A T (time-lag type) fuse
- 3.15-A T (time-lag type) fuse
- Connector cables
- Bar code reader and cable

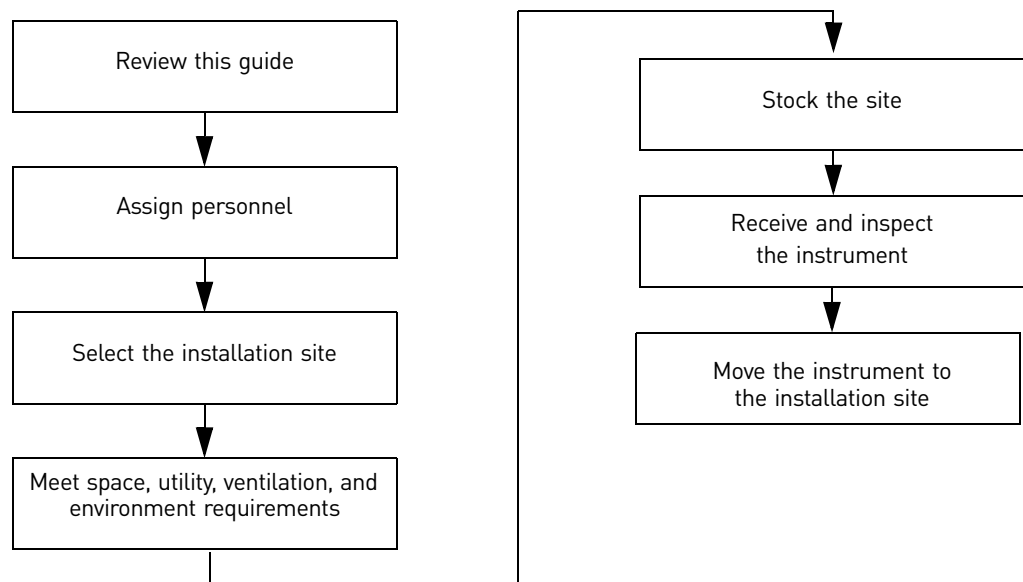
Site preparation

Before the AB Library Builder™ Device is installed, prepare your site for the installation according to the instructions in this guide.

IMPORTANT! If installation by an Applied Biosystems Field Service Engineer has been ordered, an Applied Biosystems representative will call you to ensure that all site preparation tasks have been completed before scheduling the installation.

Site preparation procedure

The general site preparation tasks and a suggested sequence for completing the tasks are summarized below. The sequence can vary, but always review this guide before beginning site preparation:



Personnel recommendations

Preparing the site for installation of the AB Library Builder™ Device requires coordination of activities for many functional groups within your organization.

Applied Biosystems service performs the installation

If you have purchased the Applied Biosystems Service-Installed Option, the following section suggests the personnel needed, and tasks required, in order to accomplish all site-preparation tasks.

Recommended personnel and responsibilities	
Site preparation/installation coordinator • Is available throughout installation of the AB Library Builder™ Device. • Reviews the site preparation guide for safety information and instrument requirements. • Reviews the site preparation guide checklists with applicable personnel, then with the Applied Biosystems service representative to verify that the site is properly prepared. • Coordinates personnel and tasks. – Schedules the installation and informs personnel of the installation date. – Ensures that the site is clear of unnecessary material on the installation day. • Orders required materials. • Chooses the site. • Receives and inspects the instrument.	
Laboratory safety representative • Is available throughout unpacking and setup of the AB Library Builder™ Device. • Reviews the site preparation guide for safety information. • Ensures that the required safety practices and equipment are in place. IMPORTANT! Applied Biosystems requests that a representative from your laboratory be in the vicinity and available to the Applied Biosystems service representative at all times during the installation. The laboratory safety representative should be familiar with laboratory safety procedures and know the location of all the safety equipment.	
Laboratory personnel – The primary users to be trained and to subsequently train other users • Ensure that all customer-provided materials for installation are present at the site. • Review safety information.	

Recommended personnel and responsibilities *(continued)*

Facilities personnel (two people)

- Are available throughout installation.
- Provide installation requirements for environmental and electrical site-preparation.
- Ensure that installation requirements are specifically met for:
 - Space at the installation site
 - Building clearances
 - Temperature and humidity
 - Ventilation and waste collection
 - Electrical supply
 - Safety and installation materials
- If possible, move the crated AB Library Builder™ Device to the site before the installation date.
- Help move and position the AB Library Builder™ Device during the installation.



WARNING! PHYSICAL INJURY HAZARD. Before moving the instrument, see [“Move the crated instrument” on page 19.](#)

Customer performs
the installation

If you have purchased the instrument without the Applied Biosystems Service-Installed Option, the following section suggests the personnel needed, and tasks required, in order to accomplish all site-preparation tasks.

Recommended personnel and responsibilities

Site preparation/installation coordinator

- Reviews the site preparation guide for safety information and instrument requirements.
- Reviews the site preparation guide checklists with applicable personnel.
- Coordinates personnel and tasks.
 - Schedules the installation with internal personnel.
 - Ensures that the site is clear of unnecessary material on the installation day.
- Orders required materials.
- Chooses the site.
- Receives and inspects the instrument.

Laboratory safety representative

- Is available throughout unpacking and setup of the AB Library Builder™ Device.
- Reviews the site preparation guide for safety information.
- Ensures that the required safety practices are enforced and that equipment is in place.

Recommended personnel and responsibilities *(continued)*

Facilities personnel (two people)

- Are available throughout installation.
- Provide installation requirements for environmental and electrical site-preparation.
- Ensure that installation requirements are specifically met for:
 - Space at the installation site
 - Building clearances
 - Temperature and humidity
 - Ventilation and waste collection
 - Electrical supply
 - Safety and installation materials
- If possible, move the crated AB Library Builder™ Device to the site before the installation date.
- Help move and position the AB Library Builder™ Device during the installation.



WARNING! PHYSICAL INJURY HAZARD. Before moving the instrument, see [“Move the crated instrument” on page 19.](#)

Space and layout requirements

Requirements and recommendations				
System dimension and weight requirements Secure bench space with the following minimum clearances rated for stated weight of the instrument.				
	Minimum clearance height, cm (in.)	Minimum width, cm (in.)	Minimum depth, cm (in.)	Weight kg (lbs.)
Minimum system clearances and weight requirements	114.5 cm (45 in.)	71.1 cm (28 in.)	76.2 cm (30 in.)	79.4 kg (175 lbs.) ^a
System dimensions	57.3 cm (22.5 in.)	50.8 cm (20 in.)	55.9 cm (22 in.)	55 kg (121 lbs.) ^b
a Crate + instrument (lbs.) b AB Library Builder™ Device				
The diagram illustrates the space requirements for the AB Library Builder device. It shows a top-down view of the device with dimension lines indicating the following measurements: Minimum width: 71.1 cm (28 in.) Instrument width: 50.8 cm (20 in.) Instrument height: 57.3 cm (22.5 in.) Minimum clearance height: 114.5 cm (45 in.)				
Figure 1 Space requirements				

Requirements and recommendations <i>(continued)</i>
Space requirements • A minimum width of 71.1 cm (28 inches) provides 10 cm (4 in.) of space on the right and left sides of the instrument to ensure proper ventilation of the unit (for system air intake and heat dissipation) and maintenance access. • A minimum depth of 76.2 cm (30 inches) provides 10 cm (4 in.) of space on the front and back sides of the instrument to ensure proper maintenance access. • A minimum clearance height of 114.5 cm (45 inches) above the mounting surface provides clearance for opening the front door of the instrument, and for removal of covers during instrument maintenance.
Layout recommendations Verify that the installation location: • Is not adjacent to heaters, cooling ducts, or in direct sunlight • Allows the computer to be within 2 meters (6 feet) of the instrument

Environmental requirements

Requirement
Altitude requirement Confirm that the altitude does not exceed 2,000 meters (6,500 feet). The AB Library Builder™ Device is for indoor use only and for altitudes not exceeding 2,000 meters (6,500 feet) above sea level.
Temperature and humidity requirements Confirm that the installation site is maintained at: • Temperature: 5–40°C. Maximum change of less than 15 degrees Celsius (27°F) per 24 hours. • Humidity: 20–80% relative humidity, noncondensing. Avoid placing the instrument adjacent to heaters, cooling ducts, or in direct sunlight. IMPORTANT! The temperature and humidity conditions must be maintained even when the AB Library Builder™ Device is not in use.
Pollution requirement Confirm that the location does not exceed Pollution Degree 2 - Only nonconductive pollutants, if any, are present. The AB Library Builder™ Device has a Pollution Degree rating of 2, and it may be installed in an environment that has nonconductive pollutants (dust, wood chips, and so on) only. Typical environments with Pollution Degree 2 ratings are laboratory, sales, and commercial areas. Note: Pollutants may negatively affect the performance of the AB Library Builder™ Device.

Ventilation and waste collection recommendations

Recommendation
Instrument hot-air exhaust venting Verify that one of the following conditions exists: • Facilities personnel have certified that the normal room ventilation system can maintain room temperature if the typical thermal output of the AB Library Builder™ Device (values shown below) is vented directly into the room air. Hot-air exhaust is vented from the AB Library Builder™ Device through the hot-air waste port on the rear panel. The hot-air exhaust is designed to dissipate heat produced by the instrument. The typical thermal output of the AB Library Builder™ Device is: ~224 Btu/hr (120 VAC) or ~251 Btu/hr (240 VAC). Consult your facilities department to determine if the laboratory ventilation system can maintain room temperature with this level of thermal output. If it can maintain room temperature during instrument operation, the hot-air exhaust port can be vented directly to room air. • A suitable venting device, such as a fume hood or fume duct, is available to vent the hot air exhaust from the instrument space.

Electrical requirements

Requirement	
Main power supply Verify that the main power supply to the AB Library Builder™ Device can be immediately disconnected. IMPORTANT! In case of emergency, you must be able to immediately disconnect the main power supply to the AB Library Builder™ Device.	
Power connectors and receptacles Verify that grounded power receptacles are available to support the electrical requirements shown below.	
Electrical requirements	Specifications
AC Voltage	100–240 VAC
AC Frequency	50 or 60 Hz
AC Phases	1
Power	240 VA
The AB Library Builder™ Device can be configured for operating voltages between 100–240 VAC, at either 50 or 60 Hz. The instrument is equipped with a universal power supply. The instrument requires a 15 A circuit for all indicated input voltages. IMPORTANT! The AB Library Builder™ Device is shipped with two power connectors. These connectors require standard 15 A wall receptacles with proper grounding. Do not use extension cords.	
Power line regulator Verify that a power line regulator is available if the voltage of the supplied power is at risk to fluctuate more than $\pm 10\%$ of the nominal value. IMPORTANT! High and low voltages can adversely affect the electronic components of the AB Library Builder™ Device.	

Safety materials and equipment

Recommendation
BioSafety Verify that the site is not designated BioSafety Level 3 (BSL-3) or BioSafety Level 4 (BSL-4). IMPORTANT! Applied Biosystems does not install, service, or repair Applied Biosystems instruments in areas designated BSL-3 or BSL-4.
Safety practices IMPORTANT! A safety representative from your facility must ensure that: • All applicable safety practices and policies to protect laboratory personnel from potential hazards are established and are followed by personnel • All applicable safety devices and equipment are available
Safety equipment The following safety protection and equipment must be available at the installation site: • Protection from any sources of hazardous chemicals, radiation (for example, lasers, radioisotopes, radioactive wastes, and contaminated equipment), and potentially infectious biological material that may be in the area during installation. • Appropriate fire extinguisher: – You are responsible for providing an appropriate fire extinguisher for use on or near Applied Biosystems equipment. – The types and sizes of fire extinguishers must be suitable for use on electrical and chemical fires as specified in current codes, regulations, and/or standards, and with approval of the Fire Marshall or other authority having jurisdiction. – The installation of appropriate fire extinguishers must be in addition to other fire-protection systems and not as a substitute or alternative to them. • Eyewash • Safety shower • Eye and hand protection • Adequate ventilation, including vent line/fume hood, if applicable • Biohazard waste container, if applicable • First-aid equipment • Spill cleanup equipment • Applicable SDSs

Recommendation
General installation materials • Safety glasses and lab coats • Chemical-resistant disposable gloves (powder free) • Glassware washing solution • Lint-free tissues • Methanol or Isopropanol, HPLC-grade or better • Water, Milli-Q® grade, HPLC-grade or better • Three sizes of micropipettors and tips: – 1– to 10-μL – 10– to 100-μL – 100– to 1,000-μL • A mini vortexer, centrifuge (equipped to accept reaction plates), and sample tubes
Routine operation materials Materials for routine operation after installation are available or have been ordered. Additional supplies and consumables are necessary for routine operation of the AB Library Builder™ System. Before the instrument is installed, contact the Applied Biosystems sales representative to order these additional supplies.

Receive and inspect the system

Action
Inspect crates for damage Carefully inspect the crates and boxes; report any damage to the Applied Biosystems customer service representative or to your local technical support group if you are conducting a self-installation.
Verify shipped contents Verify that the items on the packing list are those that were ordered. Otherwise, report to the Applied Biosystems customer service representative any discrepancies in the packing list. • AB Library Builder™ Device(s) • Accessories • Protocol Card Note: The Protocol Card is shipped with the instrument although not included in the instrument packing list.
Report to the Applied Biosystems customer service representative: • Any damage to the crates or boxes • Tip indicators or shock indicators that show evidence of mishandling during transit

Move the crated instrument

Verify building clearances

Action								
Verify that the building clearances allow passage of the crate dimensions shown below. The largest crate included with the AB Library Builder™ Device shipment contains the AB Library Builder™ Device. If the crate dimensions exceed building clearances, contact the Applied Biosystems customer service representative. Do not unpack the crate without authorization.								
<table><tr><th>Crate dimension</th><th>Minimum building clearance</th></tr><tr><td>Height</td><td>96.5 cm (38 inches)</td></tr><tr><td>Length</td><td>69.9 cm (27.5 inches)</td></tr><tr><td>Depth</td><td>67.3 cm (26.5 inches)</td></tr></table>	Crate dimension	Minimum building clearance	Height	96.5 cm (38 inches)	Length	69.9 cm (27.5 inches)	Depth	67.3 cm (26.5 inches)
Crate dimension	Minimum building clearance							
Height	96.5 cm (38 inches)							
Length	69.9 cm (27.5 inches)							
Depth	67.3 cm (26.5 inches)							
If possible, move all system components (see page 7), excluding the AB Library Builder™ Device, to the laboratory before the date of the scheduled installation.								
Clear the installation site of all unnecessary materials.								

Move the Instrument

Action	
Before the date of installation: • Clear the installation site of all unnecessary materials. • If possible, move the crated AB Library Builder™ System from the receiving area to the installation site.	
	CAUTION! PHYSICAL INJURY HAZARD. If you decide to lift or move the instrument after it has been installed, do not attempt to lift or move the instrument without the assistance of others, the use of appropriate moving equipment, and proper lifting techniques. Improper lifting can cause painful and permanent back injury. Depending on the weight of the instrument, moving or lifting an instrument may require two or more persons.
	CAUTION! Do not tip the AB Library Builder™ System on its end. Tipping damages the AB Library Builder™ System hardware and electronics.

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Site Preparation Checklists

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Overview

Before using the checklists in this chapter, read all previous sections in this guide.

Use the checklists in this chapter to ensure that you have made all preparations for installing the system. If you have purchased the Applied Biosystems Service-Installed Option, an Applied Biosystems service representative will contact you to verify that all checklists are complete before scheduling the installation date.

In the following checklists, date each item after verifying its completion.

Personnel checklist

For more information, see [“Personnel recommendations” on page 9](#).

Date verified	Designated personnel
	Site Preparation/Installation Coordinator
	Laboratory Safety Representative
	Laboratory Personnel: - To ensure that customer-supplied materials are present - Primary users to be trained during installation and to subsequently train other users
	Facilities Personnel (two people): - To provide environmental and electrical site-preparation requirements - To help the service representative move and position the instrument, if applicable

Space and layout checklist

For more information, see [“Space and layout requirements” on page 12](#).

Date verified	Requirements
	Location accommodates the dimensions and weight specified in “System dimension and weight requirements” on page 12 .
	Location meets the requirements specified in “Space and layout requirements” on page 12 .
	Location is away from: - Heating or cooling ducts - Direct sunlight
	Space for the computer is within 2 meters (6 feet) of the AB Library Builder™ System

Environmental checklist

For more information, see [“Environmental requirements” on page 14](#).

Date verified	Requirement
	The altitude does not exceed 2,000 meters (6500 feet) above sea level.
	The conditions specified in “Temperature and humidity requirements” on page 14 have been met.
	The location does not exceed Pollution Degree 2. Only nonconductive pollutants, if any, are present.

Ventilation and waste collection checklist

For more information, see [“Ventilation and waste collection recommendations” on page 14](#).

Date verified	Requirement
	Instrument hot-air exhaust venting
	One of the following conditions exists: - Facilities personnel have certified that the normal room ventilation system can maintain room temperature if the typical thermal output of the system (specified in “Instrument hot-air exhaust venting” on page 14) is vented directly into the room air. - A suitable venting device such as a fume hood or fume dust is available to vent the hot air exhaust from the instrument space.

Electrical checklist

For more information, see [“Electrical requirements” on page 15](#).

Date verified	Requirement
	The main power supply to the instrument can be immediately disconnected.
	Appropriate grounded power receptacles are available (see “Verify that grounded power receptacles are available to support the electrical requirements shown below.” on page 15).
	An appropriate power line regulator is available (see “Power line regulator” on page 15).

Safety materials and equipment checklist

For more information, see [“Safety materials and equipment” on page 16](#).

Date verified	Requirement
Safety practices	
	The site is not designated BioSafety Level 3 (BSL-3) or BioSafety Level 4 (BSL-4)
	Safety practices and policies to protect laboratory personnel from potential hazards are in place and are followed
	Protection from any sources of hazardous chemicals, radiation (for example, lasers, radioisotopes, radioactive wastes, and contaminated equipment), and potentially infectious biological material is in place
Safety materials	
	Appropriate fire extinguisher
	Eyewash
	Safety shower
	Eye and hand protection
	Vent lines and fume hood, if applicable
	Biohazard waste container, if applicable
	First-aid equipment
	Spill cleanup equipment
	SDSs readily available
	Safety glasses and lab coats
Materials for general installation	
	Chemical-resistant disposable gloves (powder free)
	Glassware washing solution
	Lint-free tissues
	Methanol or Isopropanol, HPLC-grade or better
	Water, Milli-Q grade, HPLC-grade or better
	Three sizes of micropipettors and tips: 1– to 10-μL 10– to 100-μL 100– to 1000-μL
	A mini vortexer, centrifuge, and sample tubes
Materials for routine operation	
	Materials for routine operation after the installation are available or have been ordered (see “Routine operation materials” on page 17)

System receipt and inspection checklist

For more information, see [“Receive and inspect the system” on page 18.](#)

Date verified	Action
Crate inspection	
	Received the AB Library Builder™ Device and inspected the crates and boxes for mishandling or damage.
Shipped contents	
	Verified that items on the packing list are the items that were ordered. Otherwise, discrepancies in the packing list have been reported to the Applied Biosystems customer service representative.
	Received the AB Library Builder™ System and inspected the crates and boxes for mishandling or damage.
	Reported to the Applied Biosystems customer service representative: - Any damage to the shipping containers - Tip indicators or shock indicators that show evidence of mishandling during transit

Move the crated instrument checklist

For more information, see [“Move the crated instrument” on page 19.](#)

Date verified	Item
	The measured building clearances can accommodate the AB Library Builder™ System crate dimensions (see “Verify building clearances” on page 19). If the crate dimensions exceed building clearances, contact the Applied Biosystems service representative. Do not unpack the crate without authorization.
	If possible, moved all the <i>crated</i> equipment, excluding the crated AB Library Builder™ System, to the laboratory before the date of the scheduled installation.  WARNING! PHYSICAL INJURY HAZARD. Do not attempt to lift or move any boxed or crated items unless you have received related training. Incorrect lifting can cause painful and sometimes permanent back injury. Use proper lifting techniques when lifting or moving items. No attempt should be made to lift the instrument.
	Cleared the installation site of all unnecessary materials.

A

Safety and EMC Compliance Information

This section includes the following topics:

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Safety conventions used in this document

Safety alert words

Four safety alert words appear in Applied Biosystems user documentation at points in the document where you need to be aware of relevant hazards. Each alert word—**IMPORTANT**, **CAUTION**, **WARNING**, **DANGER**—implies a particular level of observation or action, as defined below:

Definitions

IMPORTANT! – Indicates information that is necessary for proper instrument operation, accurate chemistry kit use, or safe use of a chemical.



CAUTION! – Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.



WARNING! – Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury.



DANGER! – Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.

Except for **IMPORTANT**s, each safety alert word in an Applied Biosystems document appears with an open triangle figure that contains a hazard symbol. *These hazard symbols are identical to the hazard icons that are affixed to Applied Biosystems instruments* (see “[Safety symbols](#)” on [page 29](#)).

Examples

The following examples show the use of safety alert words:

IMPORTANT! Wear powder-free gloves when you handle the halogen lamp.



CAUTION! The lamp is extremely hot. Do not touch the lamp until it has cooled to room temperature.



WARNING! CHEMICAL HAZARD. **Ethanol** is a flammable liquid and vapor. Exposure causes eye, skin, and respiratory tract irritation and may cause central nervous system depression and liver damage. Read the SDS, and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves.

 **DANGER! ELECTRICAL HAZARD.** Failure to ground the instrument properly can lead to an electrical shock. Ground the instrument according to the provided instructions.

Symbols on instruments

Electrical symbols on instruments

The following table describes the electrical symbols that may be displayed on Applied Biosystems instruments.

Symbol	Description	Symbol	Description
	Indicates the On position of the main power switch.		Indicates a terminal that may be connected to the signal ground reference of another instrument. This is not a protected ground terminal.
	Indicates the Off position of the main power switch.		Indicates a protective grounding terminal that must be connected to earth ground before any other electrical connections are made to the instrument.
	Indicates a standby switch by which the instrument is switched on to the Standby condition. Hazardous voltage may be present if this switch is on standby.		Indicates a terminal that can receive or supply alternating current or voltage.
	Indicates the On/Off position of a push-push main power switch.		Indicates a terminal that can receive or supply alternating or direct current or voltage.

Safety symbols

The following table describes the safety symbols that may be displayed on Applied Biosystems instruments. Each symbol may appear by itself or in combination with text that explains the relevant hazard (see [“Safety labels on instruments”](#) on [page 30](#)). These safety symbols may also appear next to DANGERS, WARNINGS, and CAUTIONS that occur in the text of this and other product-support documents.

Symbol	Description
	Indicates that you should consult the manual for further information and to proceed with appropriate caution.
	Indicates the presence of an electrical shock hazard and to proceed with appropriate caution.



Symbol	Description
	Indicates the presence of a hot surface or other high-temperature hazard and to proceed with appropriate caution.
	Indicates the presence of a laser inside the instrument and to proceed with appropriate caution.
	Indicates the presence of moving parts and to proceed with appropriate caution.

Environmental symbols on instruments

The following symbol applies to all Applied Biosystems electrical and electronic products placed on the European market after August 13, 2005.

Symbol	Description
	Do not dispose of this product as unsorted municipal waste. Follow local municipal waste ordinances for proper disposal provisions to reduce the environmental impact of waste electrical and electronic equipment (WEEE). European Union customers: Call your local Applied Biosystems Customer Service office for equipment pick-up and recycling. See http://www.appliedbiosystems.com for a list of customer service offices in the European Union.

Safety labels on instruments

The following CAUTION, WARNING, and DANGER statements may be displayed on Applied Biosystems instruments in combination with the safety symbols described in the preceding section.

English	Français
CAUTION Hazardous chemicals. Read the Material Safety Data Sheets (SDSs) before handling.	ATTENTION Produits chimiques dangereux. Lire les fiches techniques de sûreté de matériels avant la manipulation des produits.
CAUTION Hazardous waste. Refer to SDS(s) and local regulations for handling and disposal.	ATTENTION Déchets dangereux. Lire les fiches techniques de sûreté de matériels et la réglementation locale associées à la manipulation et l'élimination des déchets.
WARNING Hot lamp.	AVERTISSEMENT Lampe brûlante.
CAUTION Hot surface.	ATTENTION Surface brûlante.
DANGER High voltage.	DANGER Haute tension.

English	Français
WARNING To reduce the chance of electrical shock, do not remove covers that require tool access. No user-serviceable parts are inside. Refer servicing to Applied Biosystems qualified service personnel.	AVERTISSEMENT Pour éviter les risques d'électrocution, ne pas retirer les capots dont l'ouverture nécessite l'utilisation d'outils. L'instrument ne contient aucune pièce réparable par l'utilisateur. Toute intervention doit être effectuée par le personnel de service qualifié de Applied Biosystems.
CAUTION Moving parts.	ATTENTION Parties mobiles.
WARNING This instrument is designed for 12V, 75W Halogen lamps only.	AVERTISSEMENT Cet instrument est conçu pour des lampes d'halogène de 12V et 75W seulement.



General instrument safety

Moving and lifting
the instrument



WARNING! PHYSICAL INJURY HAZARD. Use this product only as specified in this document. Using this instrument in a manner not specified by Applied Biosystems may result in personal injury or damage to the instrument.



CAUTION! PHYSICAL INJURY HAZARD. The instrument is to be moved and positioned only by the personnel or vendor specified in the applicable site preparation guide. If you decide to lift or move the instrument after it has been installed, do not attempt to lift or move the instrument without the assistance of others, the use of appropriate moving equipment, and proper lifting techniques. Improper lifting can cause painful and permanent back injury. Depending on the weight, moving or lifting an instrument may require two or more persons.

Moving and lifting
stand-alone
computers and
monitors



WARNING! Do not attempt to lift or move the computer or the monitor without the assistance of others. Depending on the weight of the computer and/or the monitor, moving them may require two or more people.

Things to consider before lifting the computer and/or the monitor:

- Make sure that you have a secure, comfortable grip on the computer or the monitor when lifting.
- Make sure that the path from where the object is to where it is being moved is clear of obstructions.
- Do not lift an object and twist your torso at the same time.
- Keep your spine in a good neutral position while lifting with your legs.
- Participants should coordinate lift and move intentions with each other before lifting and carrying.
- Instead of lifting the object from the packing box, carefully tilt the box on its side and hold it stationary while someone slides the contents out of the box.

Operating the
instrument

Ensure that anyone who operates the instrument has:

- Received instructions in both general safety practices for laboratories and specific safety practices for the instrument.
- Read and understood all applicable Safety Data Sheets (SDSs). See [“About SDSs”](#) on [page 33](#).



WARNING! PHYSICAL INJURY HAZARD. Use this instrument as specified by Applied Biosystems. Using this instrument in a manner not specified by Applied Biosystems may result in personal injury or damage to the instrument.

Cleaning or
decontaminating the
instrument



CAUTION! Before using a cleaning or decontamination method other than those recommended by the manufacturer, verify with the manufacturer that the proposed method will not damage the equipment.

Chemical safety

Chemical hazard warning



WARNING! CHEMICAL HAZARD. Before handling any chemicals, refer to the Safety Data Sheet (SDS) provided by the manufacturer, and observe all relevant precautions.



WARNING! CHEMICAL HAZARD. All chemicals in the instrument, including liquid in the lines, are potentially hazardous. Always determine what chemicals have been used in the instrument before changing reagents or instrument components. Wear appropriate eyewear, protective clothing, and gloves when working on the instrument.



WARNING! CHEMICAL STORAGE HAZARD. Never collect or store waste in a glass container because of the risk of breaking or shattering. Reagent and waste bottles can crack and leak. Each waste bottle should be secured in a low-density polyethylene safety container with the cover fastened and the handles locked in the upright position. Wear appropriate eyewear, clothing, and gloves when handling reagent and waste bottles.

About SDSs

Chemical manufacturers supply current Safety Data Sheets (SDSs) with shipments of hazardous chemicals to *new* customers. They also provide SDSs with the first shipment of a hazardous chemical to a customer after an SDS has been updated. SDSs provide the safety information you need to store, handle, transport, and dispose of the chemicals safely.

Each time you receive a new SDS packaged with a hazardous chemical, be sure to replace the appropriate SDS in your files.

Obtaining SDSs

The SDS for any chemical supplied by Applied Biosystems is available to you free 24 hours a day. To obtain SDSs:

1. Go to www.appliedbiosystems.com, click **Support**, then select SDS.
2. In the **Keyword Search** field, enter the chemical name, product name, SDS part number, or other information that appears in the SDS of interest. Select the language of your choice, then click **Search**.
3. Find the document of interest, right-click the document title, then select any of the following:
 - **Open** – To view the document
 - **Print Target** – To print the document
 - **Save Target As** – To download a PDF version of the document to a destination that you choose

Note: For the SDS of chemicals not distributed by Applied Biosystems, contact the chemical manufacturer.



Chemical safety guidelines

To minimize the hazards of chemicals:

- Read and understand the Safety Data Sheets (SDSs) provided by the chemical manufacturer before you store, handle, or work with any chemicals or hazardous materials. (See “About SDSs” on [page 33](#).)
- Minimize contact with chemicals. Wear appropriate personal protective equipment when handling chemicals (for example, safety glasses, gloves, or protective clothing). For additional safety guidelines, consult the SDS.
- Minimize the inhalation of chemicals. Do not leave chemical containers open. Use only with adequate ventilation (for example, fume hood). For additional safety guidelines, consult the SDS.
- Check regularly for chemical leaks or spills. If a leak or spill occurs, follow the manufacturer’s cleanup procedures as recommended on the SDS.
- Comply with all local, state/provincial, or national laws and regulations related to chemical storage, handling, and disposal.

Chemical waste safety

Chemical waste hazard



CAUTION! HAZARDOUS WASTE. Refer to Safety Data Sheets and local regulations for handling and disposal.

Chemical waste safety guidelines

To minimize the hazards of chemical waste:

- Read and understand the Safety Data Sheets (SDSs) provided by the manufacturers of the chemicals in the waste container before you store, handle, or dispose of chemical waste.
- Provide primary and secondary waste containers. (A primary waste container holds the immediate waste. A secondary container contains spills or leaks from the primary container. Both containers must be compatible with the waste material and meet federal, state, and local requirements for container storage.)
- Minimize contact with chemicals. Wear appropriate personal protective equipment when handling chemicals (for example, safety glasses, gloves, or protective clothing). For additional safety guidelines, consult the SDS.
- Minimize the inhalation of chemicals. Do not leave chemical containers open. Use only with adequate ventilation (for example, fume hood). For additional safety guidelines, consult the SDS.
- Handle chemical wastes in a fume hood.
- After emptying the waste container, seal it with the cap provided.
- Dispose of the contents of the waste tray and waste bottle in accordance with good laboratory practices and local, state/provincial, or national environmental and health regulations.

Waste disposal

If potentially hazardous waste is generated when you operate the instrument, you must:

- Characterize (by analysis if necessary) the waste generated by the particular applications, reagents, and substrates used in your laboratory.
- Ensure the health and safety of all personnel in your laboratory.
- Ensure that the instrument waste is stored, transferred, transported, and disposed of according to all local, state/provincial, and/or national regulations.

IMPORTANT! Radioactive or biohazardous materials may require special handling, and disposal limitations may apply.

Electrical safety

Fuses



DANGER! ELECTRICAL SHOCK HAZARD. Severe electrical shock can result from operating the Applied Biosystems 7500 Fast Real-Time PCR Instrument without its instrument panels in place. Do not remove instrument panels. High-voltage contacts are exposed when instrument panels are removed from the instrument.



WARNING! FIRE HAZARD. Improper fuses or high-voltage supply can damage the instrument wiring system and cause a fire. Before turning on the instrument, verify that the fuses are properly installed and that the instrument voltage matches the power supply in your laboratory.



WARNING! FIRE HAZARD. For continued protection against the risk of fire, replace fuses only with fuses of the type and rating specified for the instrument.

Power



DANGER! ELECTRICAL HAZARD. Grounding circuit continuity is vital for the safe operation of equipment. Never operate equipment with the grounding conductor disconnected.



DANGER! ELECTRICAL HAZARD. Use properly configured and approved line cords for the voltage supply in your facility.



DANGER! ELECTRICAL HAZARD. Plug the system into a properly grounded receptacle with adequate current capacity.

Overvoltage rating

The Applied Biosystems AB Library Builder™ Device has an installation (overvoltage) category of II, and is classified as portable equipment



Physical hazard safety

Moving parts



WARNING! PHYSICAL INJURY HAZARD. Moving parts can crush and cut. Keep hands clear of moving parts while operating the instrument. Disconnect power before servicing the instrument.

Biological hazard safety

General biohazard



WARNING! BIOHAZARD. Biological samples such as tissues, body fluids, and blood of humans and other animals have the potential to transmit infectious diseases. Follow all applicable local, state/provincial, and/or national regulations. Wear appropriate protective eyewear, clothing, and gloves. Read and follow the guidelines in these publications:

In the U.S.:

- U.S. Department of Health and Human Services guidelines published in *Biosafety in Microbiological and Biomedical Laboratories* (stock no. 017-040-00547-4 www.cdc.gov/od/OHS/biosfty/bmb15/bmb15toc.htm)
- Occupational Safety and Health Standards, Bloodborne Pathogens (29 CFR§1910.1030; www.access.gpo.gov/nara/cfr/waisidx_01/29cfr1910a_01.html)
- Your company's/institution's Biosafety Program protocols for working with/handling potentially infectious materials.
- Additional information about biohazard guidelines is available at: <http://www.cdc.gov>

In the EU:

- Please check your local guidelines and legislation on biohazard and biosafety precaution, and the best practices published in the World Health Organisation (WHO) Laboratory Biosafety Manual, third edition http://www.who.int/csr/resources/publications/biosafety/WHO_CDS_CSR_LYO_2004_11/en/

Workstation safety

Correct ergonomic configuration of your workstation can reduce or prevent effects such as fatigue, pain, and strain. Minimize or eliminate these effects by configuring your workstation to promote neutral or relaxed working positions.



CAUTION! MUSCULOSKELETAL AND REPETITIVE MOTION HAZARD.

These hazards are caused by potential risk factors that include but are not limited to repetitive motion, awkward posture, forceful exertion, holding static unhealthy positions, contact pressure, and other workstation environmental factors.

To minimize musculoskeletal and repetitive motion risks:

- Use equipment that comfortably supports you in neutral working positions and allows adequate accessibility to the keyboard, monitor, and mouse.
- Position the keyboard, mouse, and monitor to promote relaxed body and head postures.

Safety and electromagnetic compatibility (EMC) standards

This section provides information on:

- [U.S. and Canadian safety standards](#)
- [Canadian EMC standard](#)
- [European safety and EMC standards](#)
- [Australian EMC standards](#)

U.S. and Canadian
safety
standards



This instrument has been tested to and complies with standard UL 61010-1, "Safety Requirements for Electrical Equipment for Laboratory Use, Part 1: General Requirements" and with standard UL 61010-2-010, "Particular Requirements for Laboratory Equipment for the Heating of Materials."

This instrument has been tested to and complies with standard CAS/CAN C22.2 No. 61010-1, Second Edition, "Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements."

Canadian EMC
standard

This instrument has been tested to and complies with ICES-001, Issue 3: Industrial, Scientific, and Medical Radio Frequency Generators.

European safety and
EMC
standards



Safety

This instrument meets European requirements for safety (Low Voltage Directive 2006/95/EC). This instrument has been tested to and complies with standards EN 61010-1:2001, "Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use, Part 1: General Requirements."

EN 61010-2-010, "Particular Requirements for Laboratory Equipment for the Heating of Materials."

EN 61010-2-081, "Particular Requirements for Automatic and Semi-Automatic Laboratory Equipment for Analysis and Other Purposes."



EMC

This instrument meets European requirements for emission and immunity (EMC Directive 2004/108/EC). This instrument has been tested to and complies with standard EN 61326 (Group 1, Class A), "Electrical Equipment for Measurement, Control, and Laboratory Use – EMC Requirements."

EN 61326-1:2006 "Electrical equipment for Measurement, Control and Laboratory Use – Part 1 General EMC requirements." (Group 1, Class A)

Australian EMC
standards



This instrument has been tested to and complies with standard AS/NZS 2064, "Limits and Methods Measurement of Electromagnetic Disturbance Characteristics of Industrial, Scientific, and Medical (ISM) Radio-frequency Equipment."

Documentation and Support

Related documentation

About the
instrument
documentation

The guides listed below are shipped with the AB Library Builder™ System.:

Guide	Part no.
<i>AB Library Builder™ System User Guide</i>	4463421

Obtaining support

For the latest services and support information for all locations, go to <http://www.appliedbiosystems.com>, then click the link for **Support**.

At the Support page, you can:

- Search through frequently asked questions (FAQs)
- Submit a question directly to Technical Support
- Order Applied Biosystems user documents, Safety Data Sheets (SDSs), certificates of analysis, and other related documents
- Download PDF documents
- Obtain information about customer training
- Download software updates and patches

In addition, the Support page provides access to worldwide telephone and fax numbers to contact Life Technologies Technical Support and Sales facilities.

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