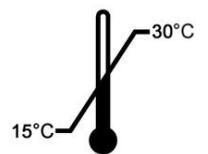


*ExiPrep*TM 16 Dx

Fully Automated Nucleic Acid Extraction System



REF **A-5050**



IVD Fully Automated Nucleic Acid Extraction System

ExiPrep™16 Dx

Fully Automated Nucleic Acid Extraction System

User's Guide

Version No.: 1.01(2015-09)

Please read all the information in booklet before using the instrument



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U.S. and Canadian Safety Standards

Standard for Electrical equipment for measurement, control and laboratory use; Part1: General Requirements,

UL 61010-1, 2nd Ed, Rev., October 28, 2008&CAN/CSA-C22. 2 No. 61010-1-04(R2009)

Part 2: Particular Requirements for Laboratory Equipment for the Heating of Materials
CAN/CSA-C22.2 NO. 61010-2-010-04

Part 2: Particular Requirements for Automatic and Semi-Automatic Laboratory Equipment for Analysis and Other Purposes,

CAN/CSA-C22. 2 No. 61010-2-081:04

Part 2: Particular requirements for in vitro diagnostic (IVD) medical equipment,
CAN/CSA-C22. 2 No. 61010-2-101:04



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PRODUCT

: ExiPrep™16 Dx,
Fully Automated Nucleic Acid Extraction System

CATALOG NO.



A-5050

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I. Getting Started

Thank you for purchasing this Bioneer product.

We will try our best to provide satisfactory results to our customers.
This manual contains practical guidelines and cautions to be taken regarding the instrument.
Please read this manual carefully and thoroughly before using the instrument.

Website

- Please visit us online at <http://www.bioneer.com> to obtain more information about *ExiPrep™16 Dx*.

General information

- *ExiPrep™16 Dx* is a trademark of Bioneer Corporation.
- The information contained in this manual is under copyright protection. It is unlawful to reproduce part or all of the contents of this manual without the expressed written consent of Bioneer Corporation.
- Bioneer Corporation reserves the right to alter, modify and otherwise make changes to the instrument and manuals without prior notice.
- You must be used carefully UV Lamp. Detail can be found in Safety warning and Precautions.
- You must use the supplied accessories and tubes.
- *ExiPrep™16 Dx* can be used *ExiStation™*.

Safety Labels Description on the *ExiPrep™16 Dx*

English	Please pull out/push in the base plate carefully to avoid possible overflow from the waste tray.
Francais	Afin d'éviter le débordement du bac à déchets, veuillez faire attention lorsque vous tirez et remettez en place la plateau de base.
English	Do NOT open the door during instrument's operation. You can be injured your hands or body.
Francais	Ne pas ouvrir la porte pendant la durée des opérations des instruments. Risque de blessures corporelles.

Symbols on the *ExiPrep™16 Dx*

Safety Symbols on the *ExiPrep™16 Dx*

The following table describes the safety symbols that may be displayed on *ExiPrep™16 Dx*. Each symbol may appear by itself or with text that explains the relevant hazard.



Hazards or dangerous actions that may result in burn.
Hot surface area. Do NOT Touch.



Please pull out/push in the base plate carefully to avoid possible overflow from the waste tray.



Do NOT open the door during instrument's operation. You can be injured your hands or body.

Electrical Symbols on the *ExiPrep™16 Dx*

The following table describes the electrical symbols that may be displayed on the *ExiPrep™16 Dx*.



Indicates the **On** position of the push power switch.



Indicates the **Off** position of the push power switch.



Indicates a standby switch by which the instrument is switched on to the **Standby** condition on touch TFT-LCD.



Indicates a protective grounding terminal that must be connected to earth ground of power cord.



Indicates a terminal that can receive or supply alternating current or voltage.



Indicates a terminal that can receive or supply direct current or voltage.

Environmental Symbols on the *ExiPrep™16 Dx*

The following symbol (WEEE) applies to the *ExiPrep™16 Dx* placed on the European market.



Do not dispose of *ExiPrep™16 Dx* as unsorted municipal waste.

Follow local municipal waste ordinances for proper disposal provisions to reduce the environmental impact of waste electrical and electronic Instrument.

European Union customers:

Call your local Europe office for Bioneer instruments pick-up and recycling.

About the *ExiPrep*™16 Dx

ExiPrep™16 Dx is fully automated nucleic acid extraction system from lysis to elution. An integrated 3.5 " touch screen enables easy operation. On-screen messages also display detailed process information such as, protocol details and user information. Optimized protocols for routine nucleic acid extraction are preloaded in the *ExiPrep*™16 Dx. Simply select a protocol from the touch screen depending on sample type. A built-in heating block in *ExiPrep*™16 Dx facilitates sample lysis. The heating block can achieve and maintain sample temperatures of 40°C~90°C. Highly pure DNA or RNA can be purified with Bioneer's proprietary silica magnetic bead technology.

The magnetic beads feature extremely high binding capacity for DNA and RNA due to a wide surface area on the round-shape bead.

The contamination shield and the tip protector designed to protect the assay from cross-contamination during instrument operation. Any time the pipette tips are moving, the contamination shield and tip protector will slide under the tips, therefore eliminating the possibility of intra-assay cross-contamination which is a must when working with multiple samples.

A built-in UV lamp activates automatically when an extraction run has completed. This automatic sterilization prevents and eliminates the risk of cross-contamination.

The cooling block preserves the extracted molecular diagnostic kit tubes in low temperature.

Intended purpose

Purify DNA or RNA from such diverse sources of human or animals as bacteria, blood, tissues, and plants.

II. Safety Warnings and Precautions

The warnings and precautions stated below are for the correct and safe operation of the instrument. Please heed all information for your safety. Bioneer Corporation does not assume responsibility for non-compliance with the safety warnings and precautions stated below.



Hazards or dangerous actions that may result in severe injury.



Hazards or dangerous actions that may result in minor injury or damage.



Hazards or dangerous actions that may result in burn.



Hazards or dangerous actions that may result in electronic shock.

User and experimental precautions



- 1) Make sure that the power supply (100–240VAC, 50/60Hz) is correctly connected to the power adapter and that the power adapter is correctly connected to the instrument. Incorrect connection of the power adapter and power supply can result in instrument damage or failure to turn on.
- 2) This instrument is intended for nucleic acid extraction. Please use as such.
- 3) The instrument may stop if the LCD panel is touched while connected to a PC via LAN cable. If operating the instrument via PC software, please allow for the instrument to finish its programmed movement before operating the LCD panel.
- 4) Do not turn the PC off or disconnect the LAN cable connecting the PC to the instrument. Data communication error can result in instrument malfunction and can affect the results of your experiment.
- 5) Please install the instrument on a flat surface.
- 6) Do not operate the instrument with wet hands as this may result in shock or instrument malfunction. Please touch the power adapter cord with dry hands.
- 7) If the instrument is stopped either from operator error including improper accessory insertion or manually halting the instrument during normal operation, you must re-initialize the instrument before pulling out the Base Plate. Pulling out the Base Plate without prior initialization can lead to instrument damage from movement interferences including a raised Heating Block or other accessories stopped in motion. If Buffer Cartridges are inserted into the Base Plate, please reinitialize the instrument or pull out the Buffer Cartridges to make sure the Heating Block is not in the way of normal Base Plate movement.
- 8) Avoid placing objects in the front and rear of the instrument, as fan blockage may cause lowered efficiency of the Cooling Block.
- 9) Be careful not to have any obstructions or foreign materials introduced into the front-lower side Cooling Fan mesh. Foreign objects can hinder normal Cooling Fan operation and may lead to overheating of parts or cause a fire.

Precautions regarding the electrical environment



- 1) If the power cord is loose, do not use the instrument. Power cord overheating may result in shock or fire.
- 2) Do not operate multiple instruments out of a single wall outlet. The load may cause overheating and may lead to fire.
- 3) When plugging or unplugging the power cord from a wall outlet, make sure your hands are completely dry. Wet or moist hands may cause electric shock.

- 4) A convenient and safe power cable should be available. The power cord provided by our company should be used.
- 5) Socket outlets should be at least 1.5 m from a sink or wash basin.
- 6) Power cord Cable should not be repaired with insulating tape. Water can still get inside.
- 7) If you use other power cord, it should be adequate for the electrical capacity for the *ExiPrep*™16 Dx (250V, 7A, 0.75mm², VDE).
- 8) Plugs should match the socket outlets.
- 9) Unplug the power cord from the *ExiPrep*™16 Dx when not in operation for a long period of time to prevent the possibility of fire by overheating.
- 10) The Adapter provided by our company must be used(FSP GROUP INC. AC Input: 100–240VAC, 2.3~0.8A, 50/60Hz, DC Output: 24VDC, 7.5A, Pin1,2: +, Pin3, 4: -, UL).
- 11) *ExiPrep*™16 Dx is equipped with a 3-conductor AC power cord that, when connected to an appropriate AC power outlet, grounds (earths) the instrument. To preserve this protection feature, do not operate the instrument from an AC power outlet that has no ground (earth) connection.

Precautions regarding the operation environment



- 1) Avoid placing objects in the front and rear of the instrument.
- 2) Avoid installing the instrument in a dusty environment. Excessive dust may cause malfunction or damage to the instrument.
- 3) Avoid installation near heat sources. This can cause fire.
- 4) Avoid installation near sources of water or damp locations. This can cause electrical shock, fire or instrument malfunction.
- 5) Do not install near sources of flammable or corrosive gas. If there is a gas leak, do not touch the power plug but open a window to circulate fresh air. Sparks from the power plug can cause fire and explosions.
- 6) Do not disassemble or modify the instrument in any way. This can result in fire, electrical shock or malfunction, and also voids your warranty.

Precautions and warnings regarding instrument installation



- 1) This is a precision instrument. Do not install in a location exposed to direct sunlight.
- 2) Install the instrument on a flat, solid surface that is flat and does not move.
- 3) When installing the instrument, make sure at least 15 cm separate the instrument from the nearest wall.
- 4) Take caution not to damage the cooling fan mesh (located on the front-bottom) while installing.
- 5) When connecting the PC, network hub and *ExiPrep*™16 Dx, do so with all involved components powered off. Connecting components while the power is on may cause damage to the instrument.
- 6) Verify the network cable integrity when connecting between the PC, network hub and *ExiPrep*™16 Dx. Unstable network connections may result in invalid experimental data from data communication errors.

Precautions and warnings regarding instrument operation



- 1) Dust off the power plug and insert the plug so that the connection is firm and does not wiggle. Incomplete electrical contacts may cause fire.
- 2) Operate the instrument in an ambient temperature range of 15°C~30°C. Excessive exposure

- to heat may affect the instrument and yield inexact results.
- 3) Operate the instrument within the recommended humidity range (20~80%, no condensation). Humid conditions may cause corrosion or malfunction.
 - 4) Do not place any objects next to or behind the instrument. The instrument may malfunction.
 - 5) This instrument contains precision machined parts. Do not drop or severely agitate the instrument. This can break the instrument and compromise the safety of the product.
 - 6) When not using the instrument for a long period of time, turn the instrument off and unplug from the wall outlet. Overheating and fire may occur.
 - 7) Take caution not to damage the cooling fan mesh located on the front-bottom of the instrument. If the mesh is damaged and the Cooling Fan does not work, the Cooling Fan motor and cooling element may overheat and cause fire.
 - 8) Set your PC's Power Options for 'Turn off the display', 'Turn off the hard disk', 'Standby mode' and 'Sleep mode' to 'Never'. Because the instrument continuously transmits and receives data from the PC, hard disk power-down may cause malfunctions.
 - 9) The instrument automatically turns off the UV lamp and its operation when the instrument's door is open. However, just in case it does NOT turn off when the door is open, please make sure the UV light does not directly expose to your eyes and skin.
 - 10) You can be injured your hands or body. Do NOT open the door during instrument's operation.
 - 11) Moving parts can crush and cut. Keep hands clear of moving parts while operating the instrument. Disconnect power before servicing the instrument.

Precautions and warnings regarding product usage and maintenance



- 1) This product must only be used for nucleic acid extraction and automatic aliquot. Do not use the instrument for any use other than explicitly stated in the User Guide.
- 2) You must use the supplied accessories and tubes.
- 3) Do not modify or delete instrument-related information installed within the instrument.
- 4) Operate the LCD touch-screen using a non-sharp object. Nails and other sharp objects may damage the product.
- 5) The instrument UV lamp will only operate if the door is completely shut. Make sure the door sensor is free of foreign materials or obstructions.
- 6) Do not use powerful detergents or solvents to clean the outside of the instrument as this may cause discoloration. If such chemicals are spilled on the instrument, immediately clean with a soft cloth.
- 7) Do not keep the instrument in an environment with high humidity. Damage from storage in these conditions is classified as water damage and is not covered by warranty. Also, damage arising from this type of exposure may be irreparable.
- 8) Disassembly and/or modification of the instrument void the warranty and may be refused service.
- 9) Do not unplug the power adapter from the instrument while the instrument is in use. This may cause the instrument to break.
- 10) If a burning smell is detected or the instrument seems to be excessively hot during operation, immediately stop using the instrument and call your service representative.
- 11) Do not drop or impact the instrument. This is a direct cause of instrument damage and may void the warranty.
- 12) Always verify that the Heating Block is in normal position before pulling out the Base Plate. If the Base Plate is pulled out while the Heating Block is not in its normal, initialized position, the interference in movement can cause Heating Block and other internal component damage and lead to instrument malfunction. Since installed Buffer Cartridges obscure the view, re-initialize the instrument or take out the Buffer Cartridges and visually inspect the position of the Heating Block before pulling out the Base Plate.

- 13) Take caution not to damage the cooling fan mesh located on the front-bottom of the instrument. If the mesh is damaged and the Cooling Fan does not work, the Cooling Fan motor and cooling element may overheat and cause fire.
- 14) The instrument automatically turns off the UV lamp and its operation when the instrument's door is open. However, just in case it does NOT turn off when the door is open, please make sure the UV light does not directly expose to your eyes and skin.
- 15) When there is liquid in the Waste Tray in the equipment, take extra caution to push-in or pull-out the base plate so the liquid does NOT overflow to the instrument inside. If the liquid overflows inside the instrument, it may damage the instrument or cause the electrocution.

UV Lamp



- 1) UV lamp operation may create Ozone molecules. For the safety issue, the instrument is pre-programmed the UV lamp operation for 15 minutes only. Please do NOT extensively use UV lamp operations.
- 2) The Ultraviolet (UV) ray can seriously damage your eyes and skin when exposed directly (even through indirectly). When you deal with UV lamp, make sure you are wearing proper protective equipment.
- 3) The UV Lamp provided by our company should be used (Input: 15 V; 4 W, UV output: 1,2 W, 0,42 A).

Precautions regarding moving and lifting instrument



- 1) 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.
- 2) Improper lifting can cause painful and permanent back injury. Depending on the weight, moving or lifting an instrument may require two or more persons.

Warnings regarding biological and chemical hazard safety



- 1) 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.
- 2) Before handling any chemicals, refer to the Material Safety Data Sheet (MSDS) provided by the manufacturer, and observe all relevant precautions.
- 3) 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.
- 4) Read and understand the Material Safety Data Sheets (MSDS) provided by the chemical manufacturer before you store, handle, or work with any chemicals or hazardous materials.
- 5) Minimize contact with chemicals. Wear appropriate personal protective equipment when handling chemicals (for example, safety glasses, gloves, or protective clothing).

III. Waste Safety Warnings & User Maintenance

This instrument is used with a special kit that contains large amounts of chlorine compounds for the purpose of extracting a nucleic acid. Furthermore, the nucleic acids extracted through this instrument have a shelf life about their sequence information. So, the residual nucleic acid can give a bad effect to the performance of the instrument. Minimizing this kind of risk, it is strongly recommended to follow the appropriate procedures for the prevention and progression themselves after referring the below.

Note:

- Power off the *ExiPrep™16 Dx*, then remove the adaptor.
- Allow the instrument to cool until the heater&magnetic block and elution block reach room temperature.



Always wear protective glasses and gloves when servicing the instrument. Also, make sure you disconnect the instrument from adaptor before you begin any service procedure.



During instrument operation, the temperature of the heater&magnetic block can be as high as 100°C, and the temperature of the heater block can be as high as 50°C. Before performing the procedure, keep hands away until the heater&magnetic block and elution block reach room temperature

1. Notice after using the instrument immediately



After using the instrument, do pay attention about the base plate because its Waste Tray contains large amounts of waste reagent which could be spilled over if you don't have particular attention to the operation.

- 1) If you operate the base plate rapidly, the overflow of waste reagent will contaminate inside of the instrument, so that the false positives will appear from the next experiment.
- 2) The waste is corrosive to stainless steel and other metals because the waste contains large amount of chlorine compounds.
- 3) Accidental happening an overflow, request A/S to clean it because the disassembly of the base plate is required to remove the inside pollution in it.

2. Cleaning solution for internal and external space of the instrument

- 1) Use distilled Water (DW), 70% ethanol, nucleic acid digestion solution (5% nitric acid, 1% lox blancher, DNAzap), and a dual lox blancher as a cleaning solutions. But be careful with DNAzap because it corrodes the metal. When you are using a lint free cloth and paper towel to soak in the cleaning solution, keep them wet or moist but not to drop the solution onto the equipment. Also, do not spray the cleaning solution directly onto the equipment.

3. Case of contamination



When a contamination occurs, take appropriate action immediately to prevent accumulative pollution and damage possibly being happened.

- 1) For cleaning the accessory, refer to the Accessory cleaning equipment.

- 2) If a waste solution did not go into the base plate, clean it using a paper towel treated with nucleic acid digestion solution. After that, clean it again using a wet a paper towel with DW, dry it using a dry paper towel, and sterilize the inside of instrument with UV lamp immediately.
- 3) If the waste went into the base plate, you have to request A/S to clean it because the disassembly of the base plate is required.

4. Waste Treatment



- 1) All the wastes and the remaining reagents must be disposed in accordance with legal procedures.
- 2) Wear appropriate eyewear, clothing, and gloves when handling reagent and waste tray.

5. Cleaning the Touch-screen

Clean the touch-screen with any commercially available LCD cleaning product.
Be careful not to scratch the screen.

6. Returning an *ExiPrep*™16 Dx for Service

- 1) Decontaminate the instrument.



If the base plate become contaminated with radioactivity, use a commercially available decontaminant to remove the contamination. If the base plate cannot be decontaminated, the instrument cannot be returned to Bioneer for service.

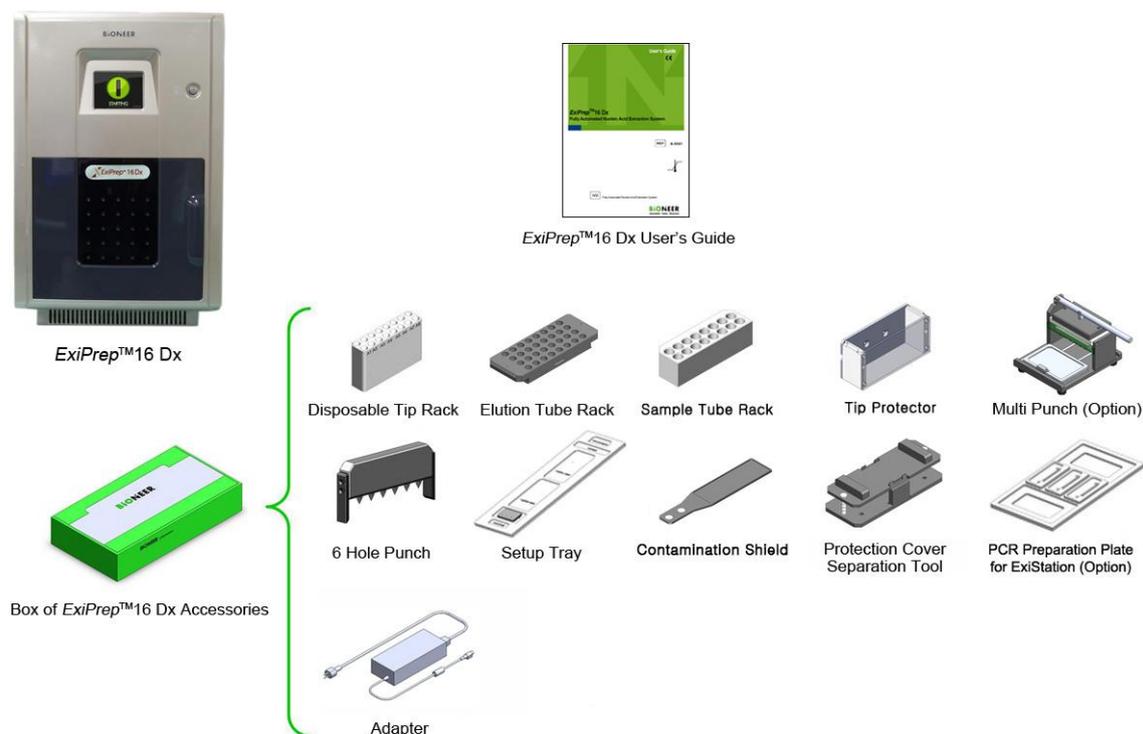
- 2) Complete of instrument decontamination.
- 3) Fax or e-mail(sales@bioneer.com) the service request form to the customer center.
- 4) Pack the instrument in the provided packaging, without any accessories or adaptor. Include service request form in the box.

Note: Repairs for instruments without the service request form are delayed.

- 5) Affix the provided postage to the box, then ship the instrument to the designated facility. The repair process requires 1 to 3 weeks.

IV. System Components and Specifications

1. System Components



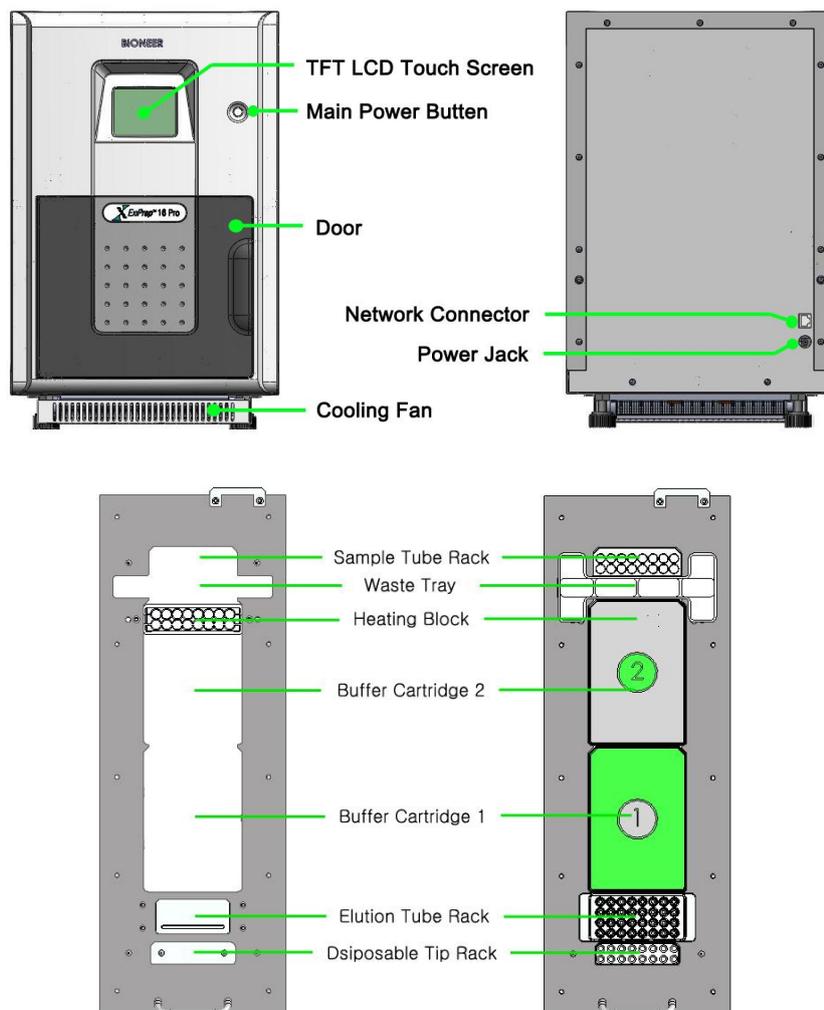
Part Name	Cat. No.	Qty.	Check
ExiPrep™16 Dx	A-5050	1 ea	<input type="checkbox"/>
User's Guide		1 ea	<input type="checkbox"/>
Sample Tube Rack		1 ea	<input type="checkbox"/>
Elution Tube Rack		1 ea	<input type="checkbox"/>
Disposable Tip Rack		1 ea	<input type="checkbox"/>
Tip Protector		1 ea	<input type="checkbox"/>
Contamination Shield		1 ea	<input type="checkbox"/>
6 Hole Puncher		1 ea	<input type="checkbox"/>
Protection Cover Separation Tool		1 ea	<input type="checkbox"/>
Setup Tray		1 ea	<input type="checkbox"/>
Adaptor		1 ea	<input type="checkbox"/>
Power cord		1 ea	<input type="checkbox"/>
(Optional) Multi Puncher		-	
(Optional) PCR Preparation Plate for ExiStation™		-	

- PCR preparation plate: It is used for ExiStation™ system instead of Setup tray.

2. Specifications

Dimensions	320 (W) x 500 (H) x 535 (D) 12.6in(W) x 19.69in(H) x 21.06in(D)
Weight	27 kg (59.53lbs)
Operating temperature	15 – 30°C (59 – 86°F)
Operating humidity	20 – 80%, no condensation
Operating system	Standalone or PC
Electrical (Voltage / Frequency)	Adaptor: AC Input: 100–240VAC, 2.3–0.8A, 50/60Hz, DC Output: 24VDC, 7.5A Instrument: DC Input: 24VDC, 7.5A
Network support	TCP/IP protocol
User interface	320 x 240 touch screen TFT LCD, 18 bit color

3. System Views



V. Installing the *ExiPrep*™16 Dx

1. Site Requirements

The *ExiPrep*™16 Dx is for indoor use. Ensure that the installation site:

- Meets the spatial and weight requirements
- Meets environmental requirements
- Is within 1.5 m (4.92 ft) of the 250VA power receptacle
- Is away from water

2. Materials Required Materials

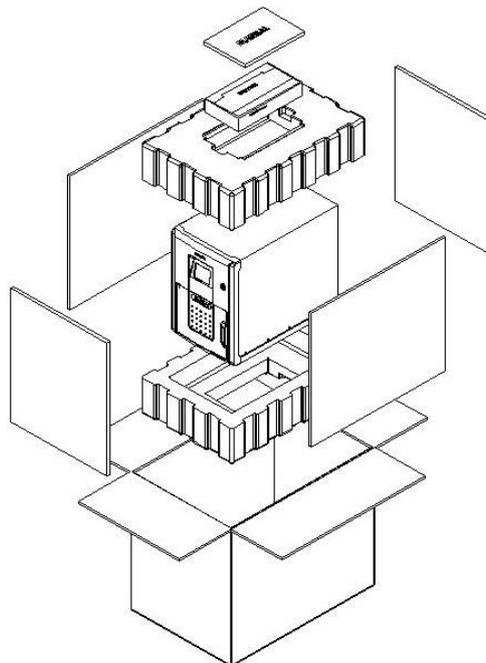
- Scissors, pocket knife, or box cutter

3. Unpacking the *ExiPrep*™16 Dx



Save the packing materials and box in case you need to ship the instrument to Bioneer for service.

- 1) To unpack the *ExiPrep*™16 Dx:



- a) Cut the straps securing the instrument box.
- b) Cut the tape securing the top flaps of the instrument crate, then open the flaps.
- c) Remove the *ExiPrep*™16 Dx Accessories from the instrument and set them aside.
- d) Lift and remove the cover from the instrument crate.
- e) Remove the packing material from the *ExiPrep*™16 Dx, then inspect the instrument for shipping damage.

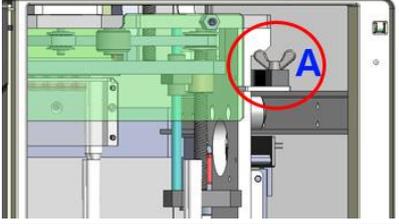
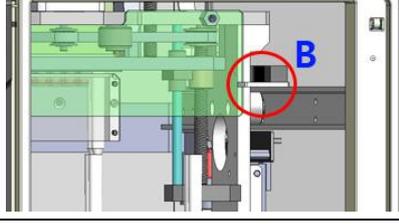
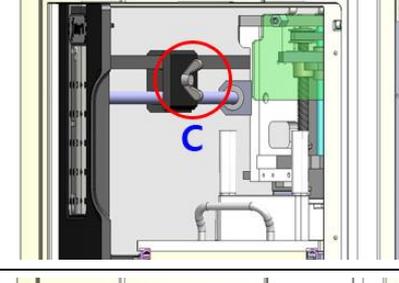
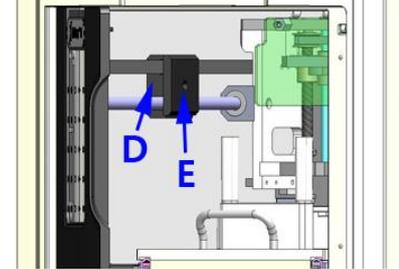


If the *ExiPrep*™16 Dx is damaged, note the location and appearance of the damage, then contact Bioneer Technical Support or your service representative.

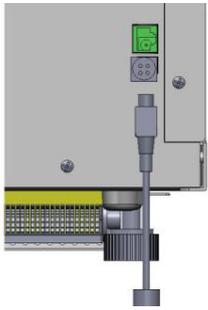
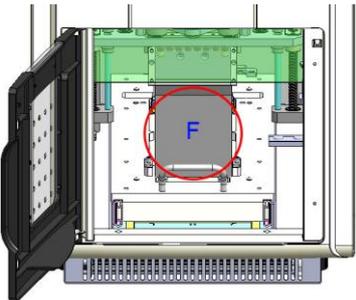
- 2) Move the *ExiPrep*™16 Dx to the desired installation site. Follow these guidelines for lifting and moving:

- Make sure that you have a secure, comfortable grip.
 - Keep your spine in a neutral position.
 - Bend at the knees and lift with your legs.
 - Do not lift and twist your torso at the same time.
- 3) Open the bag containing the *ExiPrep™16 Dx Accessories*, then verify that it contains:
- *ExiPrep™16 Dx User Guide*
 - Adaptor, Power Cord, Power 10A/125V North America or Power 10A/220V Europe

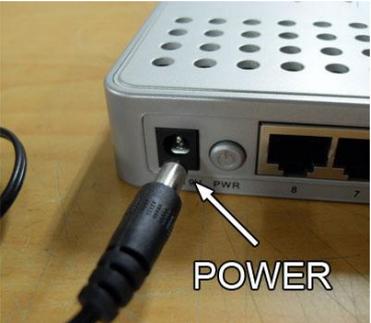
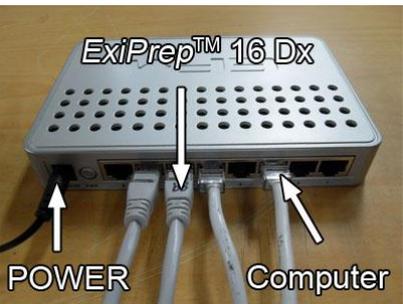
4. Remove Locking Screw

	<p>1. Open the door and remove the Screw (A) from the rail.</p>
	<p>2. Remove the Holding plate (B) from the rail and the Syringe Block.</p>
	<p>3. Remove the Screw (C) from the locking block which immobilizes the belt.</p>
	<p>4. Separate the holding block (D, E) from the belt and remove it.</p>

5. Power ON

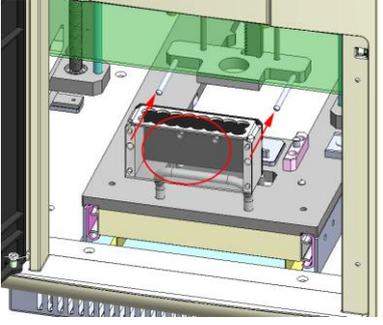
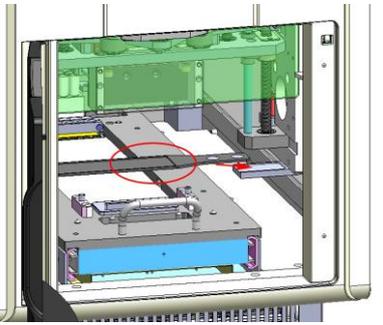
	<p>1. Connect the power cable to the rear of the instrument.</p>
	<p>2. Turn on the instrument. A power button will display on the LCD touch screen to indicate normal power on.</p>
	<p>3. Press the power button on the LCD screen to initialize the instrument. A progress bar on the lower portion of the LCD touch-screen will indicate initialization progress.</p>
	<p>4. Open the door and remove the Sponge block (F) from the Base Plate after initialization.</p>

6. PC connect for *ExiStation*™

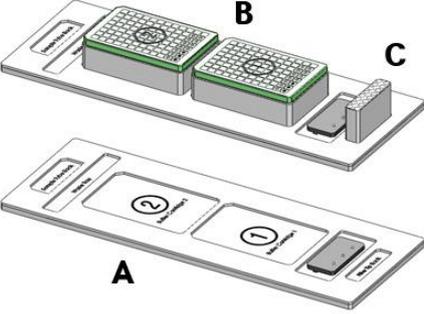
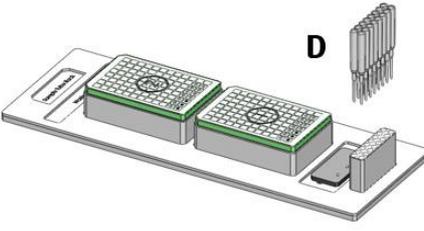
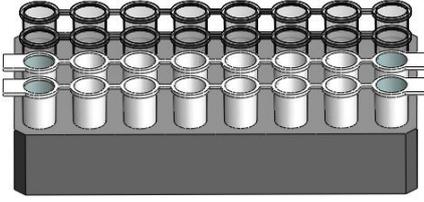
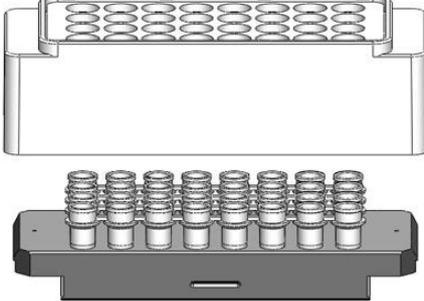
	<p>1. Connect the network hub power adapter to the network hub and plug the adapter into a wall outlet.</p>
	<p>2. Connect the instrument to the network hub using a LAN cable.</p>
	<p>3. Connect a LAN cable between the network hub and the PC which has the <i>ExiStation</i>™ Manager Software installed.</p>
	<p>4. Installation of the instrument is complete.</p>

VI. DNA/RNA Extraction

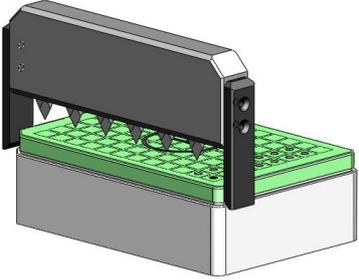
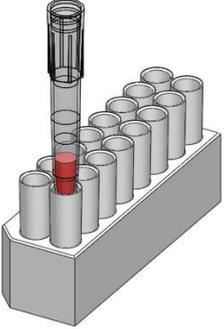
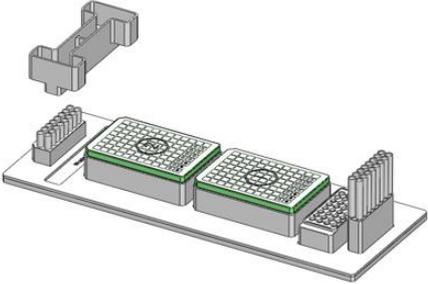
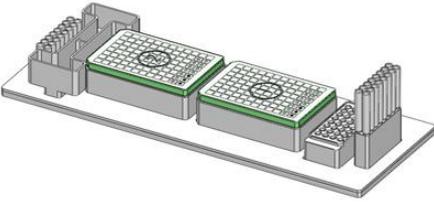
1. Contamination Protection Accessory Installation

	<p>1. From the 'Menu' screen, click 'MISC SET'.</p> <ul style="list-style-type: none"> ➤ Pull out the Syringe block all the way front (outside) Contamination Shield and Tip Protector. <p>NOTE "Load" button of <i>ExiStation</i>™ S/W perform the same function with "MISC SET" button.</p> <p>CAUTION In order to use protection accessory, this must be installed on the Base plate accessory.</p>
	<p>2. Place the Tip Protector on top of the Syringe block, and insert it into two holding shafts.</p> <ul style="list-style-type: none"> ➤ Make sure front and rear are properly inserted. ➤ Do NOT FORCE to insert the Tip Protector. It may damage.
	<p>3. Place the Contamination Shield on the lower-right side of the Syringe block.</p> <ul style="list-style-type: none"> ➤ Contamination Shield has a magnet which means if you place on the upside-down right, it will stick to the holding bar.
	<p>4. From the 'Menu' screen, click 'MISC SET'.</p> <ul style="list-style-type: none"> ➤ The base plate moves back to the initialization position (inside the instrument). <p>NOTE "Load" button of <i>ExiStation</i>™ S/W perform the same function with "MISC SET" button.</p>

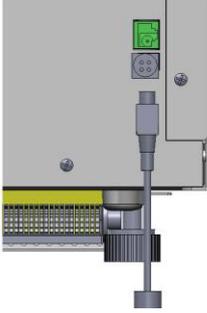
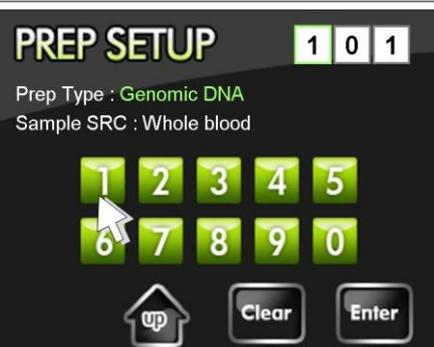
2. Sample Preparation

	<ol style="list-style-type: none"> 1. Place 'Setup tray (A)' on a flat surfaced desk. 2. On the Setup tray, put on the 'Buffer Cartridge ① ② (B)', 'Disposable tip rack (C)'. <ul style="list-style-type: none"> ➤ 'Setup Tray' and 'Tip Rack' are supplied with ExiPrep™16 Dx. ➤ 'Buffer Cartridge', 'Disposable Tip' and 'Elution Tube' are supplied in the DNA/ RNA Extraction Kit.
	<ol style="list-style-type: none"> 3. Place the Disposable tip(D) for the elution on to the Disposable tip rack.
	<ol style="list-style-type: none"> 4. Check DNA/ RNA extraction Kit for the samples and the nucleic types to be extracted. 5. Place the number of sample tube (from the diagnostic kit) and the diagnosis kit tube to be extracted on the Elution tube rack. <ul style="list-style-type: none"> ➤ You may cut the strips if necessary to match the number tubes to samples. ➤ Make sure front and rear sides of the Elution tube rack before placing tubes.
	<ol style="list-style-type: none"> 6. Check the position of the diagnosis kit tubes in the rack. Place the Protection Cover (F) on to the rack until it clicks into place. <ul style="list-style-type: none"> ➤ DO NOT press too hard on the Protection Cover.

2. Sample Preparation (Continued)

	<p>7. Punch holes in the sealing film of Buffer Cartridge ① corresponding to the relative location and number of tubes and tips, using the punch tool.</p> <p>8. Punch holes in sealing the film of Buffer Cartridge ② using the punch tool in the same pattern as Buffer Cartridge ①.</p> <p>9. Place back the punched Cartridge on the Setup Tray.</p>
	<p>10. Insert the sample tube on to the rack according to the number of samples.</p> <p>11. Insert the sample into the sample tube.</p>
	<p>12. Place the sample tube rack from step 11 onto the Setup Tray.</p>
	<p>13. Place the Waste Tray on the Setup Tray (between the tube rack and the Buffer Cartridge ②).</p>

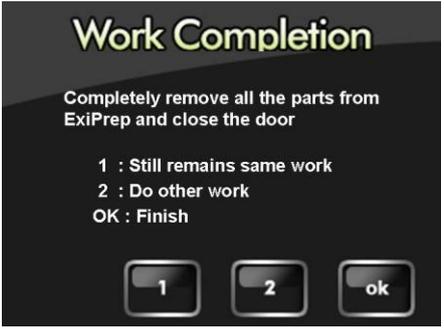
3. RUN (Not used PC)

	<ol style="list-style-type: none"> 1. Connect the power cable to the rear of the instrument and separate the LAN cable of the instrument.
	<ol style="list-style-type: none"> 2. Press the 'Store Off' button to turn the Cooling Block and cooling fan on. The Cooling Block maintains the Elution Tube Rack at a low temperature to keep the eluted nucleic acids and nucleic acid–diagnostic kit mix refrigerated.
	<ol style="list-style-type: none"> 3. Press the 'START' button to access the <i>PREP SETUP</i> screen.
	<ol style="list-style-type: none"> 4. Refer to the code list within this Manual or purchased Kit Manual to select the three–digit code (page 37) applicable to your desired nucleic acid and sample source type. 5. Verify the 'Prep Type' and 'Sample SRC' of the three–digit code you have entered. 6. Press the 'Enter' button to access the 'elution volume' selection menu.

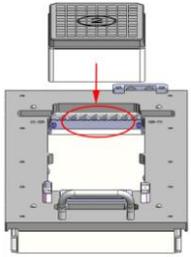
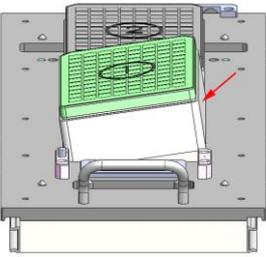
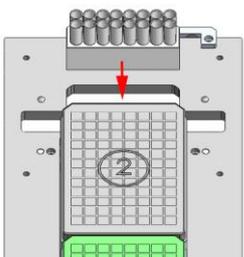
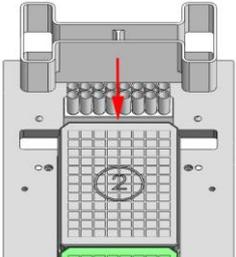
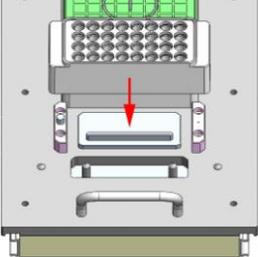
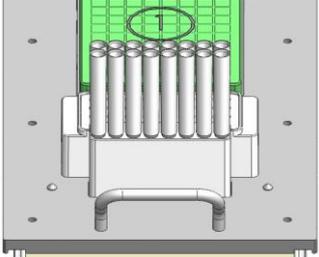
3. RUN (Not used PC) (Continued)

	<p>7. Select the 'elution volume' from the LCD touch-screen.</p> <p>8. After selecting the desired 'elution volume' press 'ok' to complete PREP SETUP.</p>
	<p>9. Open the instrument door and pull out the Base Plate.</p> <p>10. Place all racks and Buffer Cartridges in their respective locations on the Base Plate according to the CHECK LIST (page 22) on the LCD touch-screen.</p>
	<p>11. Verify the name of the target nucleic acid type and sample source type on the Running Mode screen, and press the 'RUN' button.</p> <ul style="list-style-type: none"> ➤ Progress of the extraction run can be checked through the progress bar on the lower portion of the LCD touch-screen.
	<p>12. You may press the 'STOP' button during the run to terminate the extraction.</p> <ul style="list-style-type: none"> ➤ If you press 'STOP' during an extraction run, a popup prompt asking you whether you are sure ('Are you sure?') will appear. Select 'Yes' to terminate the run, or 'No' to cancel the stop and proceeds with the extraction run. ➤ You may select 'PAUSE' to temporarily stop the run and 'RUN' to resume.

3. RUN (Not used PC) (Continued)

	<p>13. After the extraction run is complete, pull out the Base Plate and remove the Elution tubes, Buffer Cartridges and all racks from the Base Plate. After removing all accessories, push the Base Plate back in completely and close the door.</p> <p>14. You are given three options at this point:</p> <ul style="list-style-type: none"> ➤ Still remains same work: Repeat the current protocol. ➤ Do other work: Perform an extraction run using a different protocol for another nucleic acid and sample source type. ➤ Finish: Finish and exit.
	<p>15. If the automatic UV-sterilization option is enabled, a popup prompt will appear warning you not to open the door as UV sterilization is in progress. Details can be found in page 30.</p> <p>16. Press the 'START' button to initiate sterilization</p> <ul style="list-style-type: none"> ➤ Select 'SKIP' if you wish to pass sterilization. <p>17. The sterilization process takes 5 minutes. Progress can be checked through the progress bar.</p> <p>18. Remove the contamination protection accessory (Tip protector, Contamination shield). Detail can be found in page 16.</p> <p>19. Press the 'Store On' button to turn the Cooling Block and cooling fan off.</p>

※ Setup process according to the CHECK LIST

	<ol style="list-style-type: none"> 1. Place the Buffer Cartridge ② on the heating block of the base plate. <ul style="list-style-type: none"> ➤ If Buffer Cartridge ② is not properly placed on the heating block, it may cause an experiment failure or an instrument malfunction.
	<ol style="list-style-type: none"> 2. Place the Buffer Cartridge ① on the base plate. <ul style="list-style-type: none"> ➤ Place the Buffer Cartridge ① by putting the cartridge to the left side of the base plate and press right-hand side of the Cartridge to secure.
	<ol style="list-style-type: none"> 3. Place the Sample tube rack on the base plate. <ul style="list-style-type: none"> ➤ Be careful that the Sample tube rack's front and rear sides are properly placed.
	<ol style="list-style-type: none"> 4. Place the Waste tray in between the Sample tube rack and the Buffer Cartridge ②.
	<ol style="list-style-type: none"> 5. Place the Elution tube rack on the base plate. <ul style="list-style-type: none"> ➤ Check the Protection Cover is properly secured on the elution tube rack. <p>⚠ WARNING Be careful with the Aluminum sheet of the Protection Cover.</p>
	<ol style="list-style-type: none"> 6. Place the Disposable tip rack on the base plate. 7. Push the Base plate all the way inside the instrument and close the door.

VII. ExiPrep™16 Dx Setup

1. Main Menu

- Once the initialization has completed successfully, the LCD touch-screen will display the MENU as shown below.
- Please contact Bioneer Customer Service or your local sales representative if the initialization progress bar does not change for over 5 minutes during initialization or if the MENU screen does not appear after initialization.



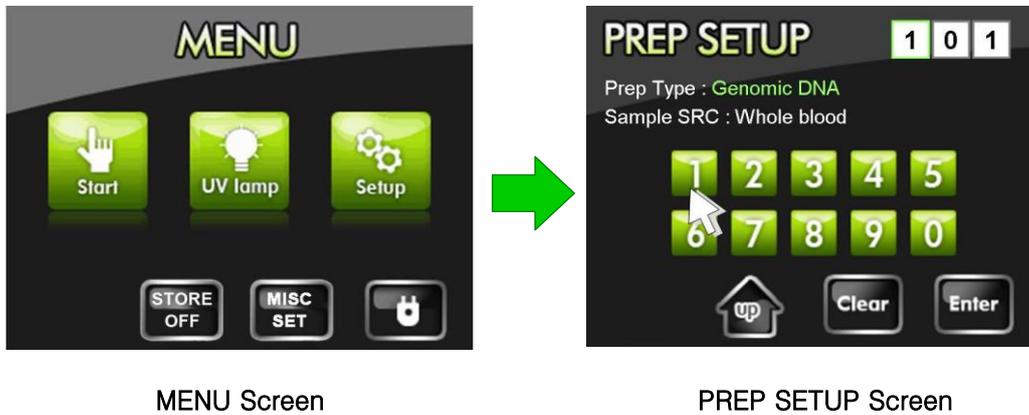
Main Menu

Icon	Description
	<ul style="list-style-type: none"> ■ Network Connection <ul style="list-style-type: none"> ➤ This icon allows you to determine if the ExiPrep™16 Dx is connected to the PC. If the icon is present, it means that the instrument is connected to the PC via network and is possible to use the ExiStation™ Manager Software to control the instrument.
	<ul style="list-style-type: none"> ■ Cooling Fan Operation <ul style="list-style-type: none"> ➤ The Cooling Fan icon allows you to determine the status of the cooling fan. 'STORE OFF' means that the cooling fan is not operating, and 'STORE ON' means that the cooling fan is currently running. ➤ In order to keep the diagnostic kits refrigerated, you must press this icon on the LCD touch-screen or click the 'STORE ON' icon in the ExiStation™ Manager Software to turn the cooling fan on.
	<ul style="list-style-type: none"> ■ Contamination protection accessory installation <ul style="list-style-type: none"> ➤ This icon is to determine the status of the syringe block for setting the Tip Protector and the contamination shield.
	<ul style="list-style-type: none"> ■ Power <ul style="list-style-type: none"> ➤ This icon is to be pressed when power rebooting the instrument.

VII. ExiPrep™16 Dx Setup (Continued)

1. Main Menu (continued)

1) PREP SETUP



MENU Screen

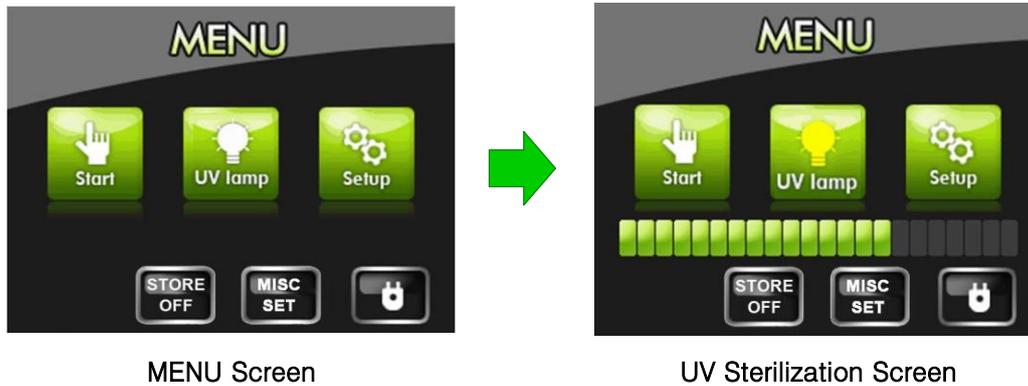
PREP SETUP Screen

- Selecting 'Start' from the Main Menu will bring up the 'PREP SETUP' screen where you can enter the three-digit code for the extraction and sample source type.
- Refer to the code list within this Manual to select the three-digit code([page 37](#)) applicable to your desired nucleic acid and sample source type.
- Do not use this menu when operating the instrument through the *ExiStation™* Manager Software.

VII. ExiPrep™16 Dx Setup (Continued)

1. Main Menu (continued)

2) UV sterilization (UV lamp)



MENU Screen

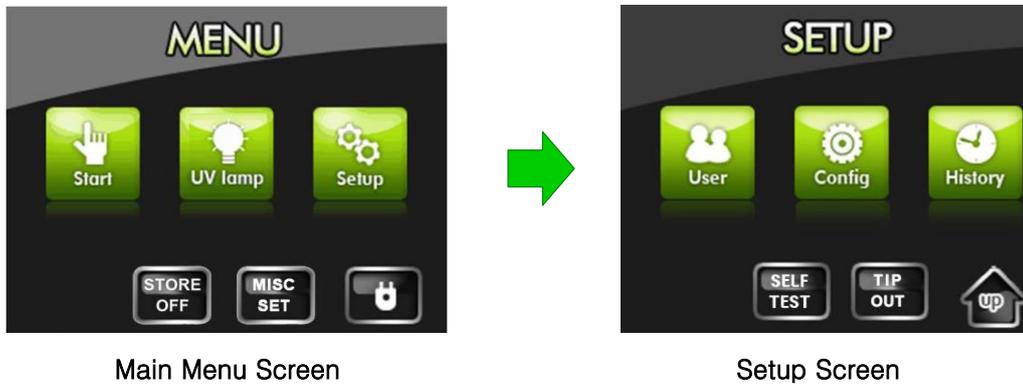
UV Sterilization Screen

- Use the built-in UV-lamp to sterilize the internal cavity of the instrument.
- Press the '**UV lamp**' icon to initiate the UV sterilization process. The icon will turn yellow as UV sterilization proceeds.
- The sterilization runs for 15 minutes. The progress can be tracked through the progress bar displayed on the bottom portion of the LCD touch-screen. To cancel the sterilization process, press the '**UV lamp**' button again.
- You may also use the *ExiStation™* Manager Software to toggle the UV sterilization function.

VII. ExiPrep™16 Dx Setup (Continued)

1. Main Menu (continued)

3) System setup menu (SETUP)



Main Menu Screen

Setup Screen

Icon	Description
	<ul style="list-style-type: none"> ▪ User registration menu <ul style="list-style-type: none"> ➢ You may create new accounts through this menu. Details on account creation can be found in page 27.
	<ul style="list-style-type: none"> ▪ System configuration menu <ul style="list-style-type: none"> ➢ Allows you to restrict non-registered users from accessing features such as UV sterilization and system preferences. Details on system configuration can be found in page 31.
	<ul style="list-style-type: none"> ▪ History <ul style="list-style-type: none"> ➢ Enabled by selecting the user login option. ➢ Allows you to audit up to 99 most recent runs by displaying information such as user ID, operation record and the instrument status (successful, cancelled) of a particular run. ➢ Details can be found in page 28.
	<ul style="list-style-type: none"> ▪ Self Test <ul style="list-style-type: none"> ➢ This icon is for testing each motor initialization and heater block Temperature.
	<ul style="list-style-type: none"> ▪ Tip Out <ul style="list-style-type: none"> ➢ This icon is for removing the Disposable Tips from the instrument Syringe Block. Pressing this icon will release the tips immediately.

VII. ExiPrep™16 Dx Setup (Continued)

2. Registering a New User

ExiPrep™16 Dx provides a user login option restricting the use of the instrument to registered users only. Enabling the user login option will limit non-user access to the instrument. Do not forget your user ID if you have enabled the user login option

	<p>1. Press the 'Setup' button to access the SETUP menu.</p>
	<p>2. Press the 'User' button to access the User Registration menu.</p>
	<p>3. Enter a 6-digit user ID using the keypad on the LCD touch screen and press 'Enter' to save the ID.</p> <ul style="list-style-type: none"> ➤ Delete: Delete last number entered. ➤ Clear: Delete all numbers entered. ➤ Enter: Save the numbers entered.
	<p>4. Verify the user ID and press 'ok' to complete the registration.</p> <ul style="list-style-type: none"> ➤ If the login option is enabled, non-registered use will have limited access to the instrument. ➤ Do not forget your user ID.

※ Up to 50 users can be registered. You can manage non-used user IDs using the administrator menu ([page 32](#)).

VII. ExiPrep™16 Dx Setup (continued)

3. Viewing Run History

If the login option is enabled, the user ID, process type and run status of each run is saved. Up to 99 most recent runs are saved in memory.

	<p>1. Press the 'Setup' button to access the SETUP menu.</p>																								
	<p>2. Press the 'History' button to view the instrument run history.</p>																								
 <table border="1" data-bbox="209 1249 568 1391"> <thead> <tr> <th>No.</th> <th>User ID</th> <th>Work</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1 1 1 1 1 1</td> <td>GD/ WB</td> <td>OK</td> </tr> <tr> <td>2</td> <td>2 2 2 2 2 2</td> <td>VD/ UR</td> <td>Abort</td> </tr> <tr> <td>3</td> <td>1 2 3 4 5 6</td> <td>TR/ PT</td> <td>OK</td> </tr> <tr> <td>4</td> <td>2 3 4 5 6 7</td> <td>FD/ GS</td> <td>Canceled</td> </tr> <tr> <td>5</td> <td>9 8 7 6 5 4</td> <td>PD/ EP</td> <td>OK</td> </tr> </tbody> </table>	No.	User ID	Work	Status	1	1 1 1 1 1 1	GD/ WB	OK	2	2 2 2 2 2 2	VD/ UR	Abort	3	1 2 3 4 5 6	TR/ PT	OK	4	2 3 4 5 6 7	FD/ GS	Canceled	5	9 8 7 6 5 4	PD/ EP	OK	<p>3. The run history contains the following parameters:</p> <ul style="list-style-type: none"> ➤ No.: Recent runs have a lower number. ➤ User ID: The 6–digit user ID. ➤ Work: An abbreviation of sample source and protocol type selected for that run. ➤ Status: Instrument report on whether nucleic acid extraction was successfully completed(OK), stopped during the run (Abort), or cancelled by the user (Canceled).
No.	User ID	Work	Status																						
1	1 1 1 1 1 1	GD/ WB	OK																						
2	2 2 2 2 2 2	VD/ UR	Abort																						
3	1 2 3 4 5 6	TR/ PT	OK																						
4	2 3 4 5 6 7	FD/ GS	Canceled																						
5	9 8 7 6 5 4	PD/ EP	OK																						

VII. ExiPrep™16 Dx Setup (continued)

4. Managing the Login Mode

The instrument provides a login mode for restricting non-registered use. Without a user ID, you would have limited access to instrument functions. Do not forget your user ID.

	<p>1. Press the 'Setup' button to access the SETUP menu.</p>
	<p>2. Press the 'Config' button to access the System Setup menu.</p>
	<p>3. Press the 'User' button to enable login mode.</p> <ul style="list-style-type: none"> ➤ If the login mode is enabled, a popup prompt (User Mode ON) appears and the user icon will turn blue. ➤ Press the 'User' button again to disable user login mode. A popup prompt (User Mode OFF) appears and the user icon will turn white.

※ Entering an invalid user ID three consecutive times with user login mode enabled will shut down the system. Press the 'Power' icon on the LCD touch-screen to restart.

VII. ExiPrep™16 Dx Setup (continued)

5. Managing the Automatic UV–Sterilization Mode

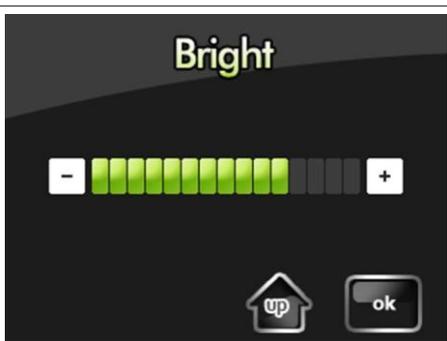
The instrument provides an automatic UV–Sterilization mode to sterilize the instrument after every DNA/ RNA extraction run.

	<p>1. Press the 'Setup' button to access the SETUP menu.</p>
	<p>2. Press the 'Config' button to access the System Setup menu.</p>
	<p>3. Press the 'UV lamp' button to enable automatic UV sterilization.</p> <ul style="list-style-type: none"> ➤ If automatic UV–sterilization is enabled, a popup prompt (UV Mode ON) appears and the UV lamp icon will turn yellow. ➤ Press the 'UV lamp' button again to disable the mode. A popup prompt (UV Mode OFF) appears and the UV Lamp icon will turn white.
	

VII. ExiPrep™16 Dx Setup (continued)

6. Configuring the System

Only the single user with a registered administrator ID is able to configure the system. Do not forget the administrator ID.

	<p>1. Press the 'Config' Button from the System Setup menu to access the System Config menu.</p> <p>CAUTION! Factory (A/S menu): Only authorized service engineers may access this menu to service the instrument.</p>			
	 Screen	 Bright	 Admin	 Factory
	<ul style="list-style-type: none"> ▪ Screen: Calibrates the screen position <ul style="list-style-type: none"> ➤ Calibrate the screen position relative to touching. ➤ Press and hold the circle at the upper left corner with a blunt tool for 2 seconds. ➤ Press and hold the circle at the bottom right corner with a blunt tool for 2 seconds. 			
	<ul style="list-style-type: none"> ▪ Bright: Screen brightness adjustment <ul style="list-style-type: none"> ➤ Adjust the brightness of the LCD touch–screen using the '+' and '–' buttons. ➤ Press the 'ok' button to save the adjusted brightness level. The previous menu will be displayed when the new brightness setting is successfully applied. ➤ To return to the previous menu without saving the adjustments, press the 'up' button. 			

VII. ExiPrep™16 Dx Setup (continued)

7. Administrator Management

 <p>The 'System Config' screen displays four main menu items: 'Screen', 'Bright', 'Admin', and 'Factory'. The 'Admin' button, which features a key icon, is highlighted with a mouse cursor. A home button with an 'up' arrow is located at the bottom right.</p>	<ol style="list-style-type: none"> 1. Press the 'Admin' button from the System Config. menu to access the Admin Access menu. 																																				
 <p>The 'Admin Access' screen shows a numeric keypad with buttons for digits 1-9 and 0. Below the keypad are buttons for 'Delete', 'Clear', and 'Enter'. A home button with an 'up' arrow is at the bottom left.</p>	<ol style="list-style-type: none"> 2. Enter the 6-digit administrator ID using the keypad on the LCD touch-screen. 3. Press the 'Enter' button. 																																				
 <p>The 'Admin Menu' screen displays the text 'Administrator mode' and a list of options: '1. User list delete.' and '2. Administrator password change'. At the bottom, there are buttons for '1', '2', and a home button with an 'up' arrow.</p>	<ol style="list-style-type: none"> 4. The Admin Menu screen includes an option to delete user IDs or change the administrator ID. <ul style="list-style-type: none"> ➤ Select 'User list delete (1)' to delete unused IDs. ➤ Select 'Administrator password change (2)' to change the factory default administrator ID. 																																				
 <p>The 'User List' screen shows 'Registered User : 3' and a table of user information. At the bottom are buttons for 'back', 'next', and 'ok', along with a home button with an 'up' arrow.</p> <table border="1" data-bbox="215 1541 555 1664"> <thead> <tr> <th>ID</th> <th>Registered User</th> <th>Registered Date</th> <th>Registered Time</th> <th>Registered Location</th> <th>Registered Status</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>111111</td> <td>11</td> <td>6</td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>222222</td> <td>2</td> <td>7</td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>333333</td> <td>3</td> <td>8</td> <td></td> <td></td> </tr> <tr> <td>4</td> <td></td> <td></td> <td>9</td> <td></td> <td></td> </tr> <tr> <td>5</td> <td></td> <td></td> <td>10</td> <td></td> <td></td> </tr> </tbody> </table>	ID	Registered User	Registered Date	Registered Time	Registered Location	Registered Status	1	111111	11	6			2	222222	2	7			3	333333	3	8			4			9			5			10			<ul style="list-style-type: none"> ▪ User list delete menu (User List) <ul style="list-style-type: none"> ➤ Registered User: Displays the number of registered users. ➤ Select the user ID you wish to delete and press 'ok' to confirm deletion. ➤ Use the 'back' or 'next' buttons to navigate the pages.
ID	Registered User	Registered Date	Registered Time	Registered Location	Registered Status																																
1	111111	11	6																																		
2	222222	2	7																																		
3	333333	3	8																																		
4			9																																		
5			10																																		

VII. ExiPrep™16 Dx Setup (continued)

7. Administrator (continued)

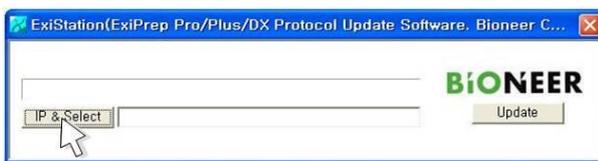
	<ul style="list-style-type: none"> ▪ Administrator ID change menu <ul style="list-style-type: none"> ➤ Enter a new 6-digit administrator ID using the keypad in the middle of LCD touch-screen and press 'Enter' button to save.
	<ul style="list-style-type: none"> ➤ Press the 'ok' button to save new administrator ID after verifying the new administrator ID. ➤ You may now use the new administrator ID to delete user IDs or setup and configure the system. ➤ Do not forget new administrator ID.

VIII. Updating the ExiPrep™16 Dx

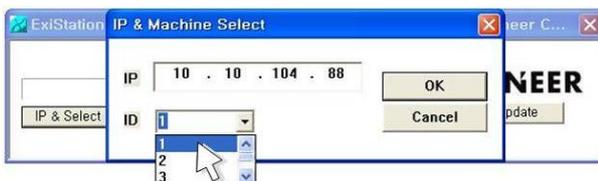
- Updating software may improve instrument functionality and install up-to-date protocols for nucleic acid extraction.
- Please refer to the FAQ in our homepage or contact Bioneer Service Center if updating does not progress as described below or you have questions.

NOTE: This program NOT included with the instrument. If you want to the program, you have to request to us.

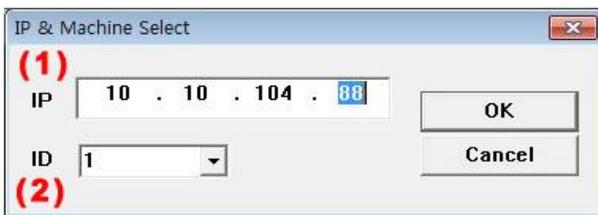
1. Connect *ExiPrep™16 Dx* to your computer using **Cross-type LAN cable(sold separately)**.
2. Start the installation of the downloaded program below.
 - **The IP address and network hub LAN port settings may change depending on the installation site and PC.**



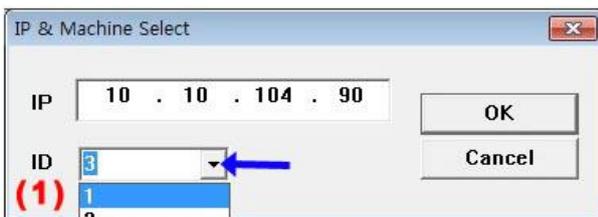
1. Execute the program.
2. Click the 'IP & Select' button on the lower left corner.



3. A new window 'IP & Machine Select' will appear with two boxes: IP and ID.



4. There are two ways of connecting to the instrument network.
 - Directly enter the IP address into the IP box (1) and select the instrument ID box (2). For example, if the IP address is '10.10.104.88', select ID '1' and click 'OK'.



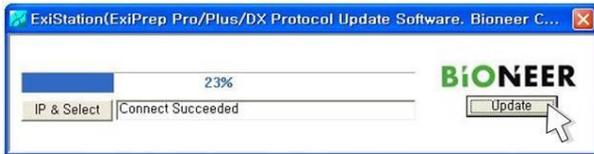
5. Clicking on the small down arrow (blue arrow) will enable you to select several instrument IDs with corresponding IP addresses. Click 'OK' to finish connecting to the instrument.



6. If the connection succeeds, the 'Connect Succeeded' prompt will be displayed.



- If the connection fails, the 'connect fail' prompt will be displayed. In this case, reboot the instrument and network hub, and verify that the network cable is connected correctly. Also verify the PC network settings including the IP address

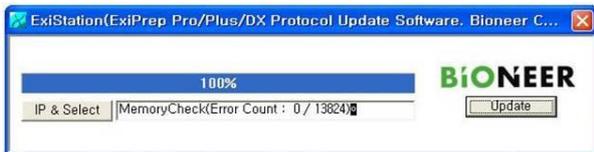


- After the connection is completed, click the 'Update' button on the right side. Wait until the progress bar is full.
 - If the connection stops progressing, restart the update process from step 1.



- Once the connection process is done, 'Memory Check starts' window will pop up.
- Click 'OK'.

- If the connection stops progressing, restart the update process from step 1.



- Once 'Memory Check' starts, the progress status bar will be displayed.



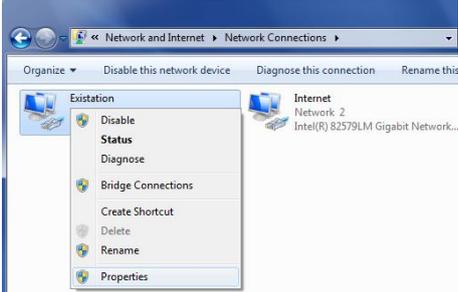
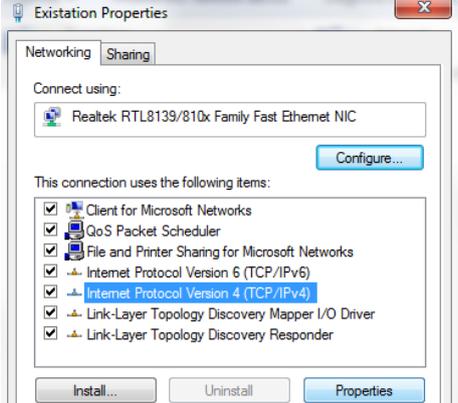
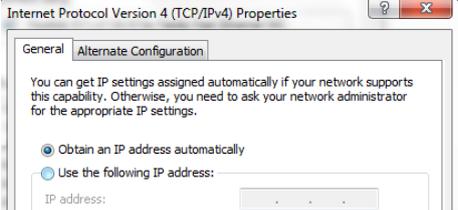
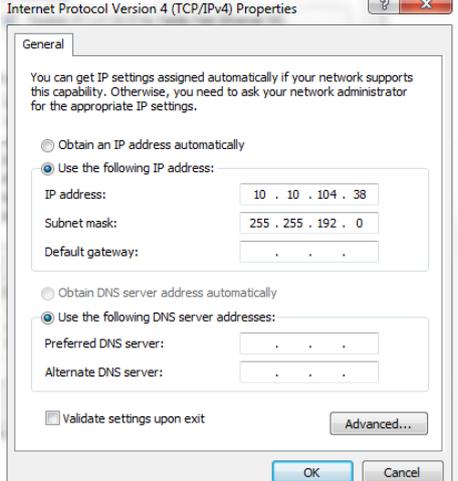
- When the Memory Check finishes the progress, 'Write and Read memory check results to matches' window will pop up.
- Press 'OK' button.



- If you get the 'Finish' message on the progress bar, all the update process.
- Disconnect the LAN cable from the computer and the instrument.
- Reboot the instrument and reconnect the LAN cable.

※ The IP address may change depending on the installation site and PC.

※ If the PC fails to connect to the instrument, try the following steps.

	<ol style="list-style-type: none"> 1. Right-click 'ExiStation' in the computer network connections menu. 2. Select 'Properties' from the popup menu.
	<ol style="list-style-type: none"> 3. Select and highlight 'Internet Protocol Version 4 (TCP/IPv4)' and click 'Properties' to access TCP/IP settings.
	<ol style="list-style-type: none"> 4. Click the 'Use the following IP address'.
	<ol style="list-style-type: none"> 5. Enter the IP address, subnet mask as follows: IP address: 10. 10. 104. 38 Subnet mask: 255. 255. 192. 0 6. Click 'OK' to complete the network connection settings.

IX. DNA/RNA Extraction Program Number List

No.	Target	Sample source
1 01	Genomic DNA	Whole blood
1 02	Genomic DNA	Animal tissue
1 03	Genomic DNA	FFPE tissue
1 04	Genomic DNA	Plant tissue
1 05	Genomic DNA	Plant seed
1 06	Genomic DNA	Rice
1 07	Genomic DNA	Cultured cell
1 08	Genomic DNA	Gram (+) bacteria
1 09	Genomic DNA	Gram (-) bacteria
1 10	Genomic DNA	Yeast
1 11	Genomic DNA	Fungi
1 12	Genomic DNA	Plasma
1 13	Genomic DNA	Serum
1 14	Genomic DNA	Buffy coat
1 15	Genomic DNA	Sputum
1 16	Genomic DNA	BAL
1 17	Genomic DNA	Saliva
1 18	Genomic DNA	Swab
1 19	Genomic DNA	Urine
1 20	Genomic DNA	Stool
1 21	Genomic DNA	Cell free body fluid
1 22	Genomic DNA	Pleural fluid
1 23	Genomic DNA	CSF
1 24	Genomic DNA	EPS
1 25	Genomic DNA	Respiratory sample
1 26	Genomic DNA	Amniotic fluid
1 27	Genomic DNA	Forensic sample
1 28	Genomic DNA	Bone marrow
1 29	Genomic DNA	Bone
1 30	Genomic DNA	Dried blood spot
1 31	Genomic DNA	Soil
1 32	Genomic DNA	Hair
1 33	Genomic DNA	Cell supernatant

No.	Target	Sample source
2 01	Total RNA	Whole blood
2 02	Total RNA	Animal tissue
2 03	Total RNA	FFPE tissue
2 04	Total RNA	Plant tissue
2 05	Total RNA	Plant seed
2 06	Total RNA	Rice
2 07	Total RNA	Cultured cell
2 08	Total RNA	Gram (+) bacteria
2 09	Total RNA	Gram (-) bacteria
2 10	Total RNA	Yeast
2 11	Total RNA	Fungi
2 12	Total RNA	Plasma
2 13	Total RNA	Serum
2 14	Total RNA	Buffy coat
2 15	Total RNA	Sputum
2 16	Total RNA	BAL
2 17	Total RNA	Saliva
2 18	Total RNA	Swab
2 19	Total RNA	Urine
2 20	Total RNA	Stool
2 21	Total RNA	Cell free body fluid
2 22	Total RNA	Pleural fluid
2 23	Total RNA	CSF
2 24	Total RNA	EPS
2 25	Total RNA	Respiratory sample
2 26	Total RNA	Amniotic fluid
2 27	Total RNA	Forensic sample
2 28	Total RNA	Bone marrow
2 29	Total RNA	Bone
2 30	Total RNA	Dried blood spot
2 31	Total RNA	Soil
2 32	Total RNA	Hair
2 33	Total RNA	Cell supernatant

No.	Target	Sample source
3 01	mRNA	Whole blood
3 02	mRNA	Animal tissue
3 03	mRNA	FFPE tissue
3 04	mRNA	Plant tissue
3 05	mRNA	Plant seed
3 06	mRNA	Rice
3 07	mRNA	Cultured cell
3 08	mRNA	Gram (+) bacteria
3 09	mRNA	Gram (-) bacteria
3 10	mRNA	Yeast
3 11	mRNA	Fungi
3 12	mRNA	Plasma
3 13	mRNA	Serum
3 14	mRNA	Buffy coat
3 15	mRNA	Sputum
3 16	mRNA	BAL
3 17	mRNA	Saliva
3 18	mRNA	Swab
3 19	mRNA	Urine
3 20	mRNA	Stool
3 21	mRNA	Cell free body fluid
3 22	mRNA	Pleural fluid
3 23	mRNA	CSF
3 24	mRNA	EPS
3 25	mRNA	Respiratory sample
3 26	mRNA	Amniotic fluid
3 27	mRNA	Forensic sample
3 28	mRNA	Bone marrow
3 29	mRNA	Bone
3 30	mRNA	Dried blood spot
3 31	mRNA	Soil
3 32	mRNA	Hair
3 33	mRNA	Cell supernatant

No.	Target	Sample source
4 01	viral DNA	Whole blood
4 02	viral DNA	Animal tissue
4 03	viral DNA	FFPE tissue
4 04	viral DNA	Plant tissue
4 05	viral DNA	Plant seed
4 06	viral DNA	Rice
4 07	viral DNA	Cultured cell
4 08	viral DNA	Gram (+) bacteria
4 09	viral DNA	Gram (-) bacteria
4 10	viral DNA	Yeast
4 11	viral DNA	Fungi
4 12	viral DNA	Plasma
4 13	viral DNA	Serum
4 14	viral DNA	Buffy coat
4 15	viral DNA	Sputum
4 16	viral DNA	BAL
4 17	viral DNA	Saliva
4 18	viral DNA	Swab
4 19	viral DNA	Urine
4 20	viral DNA	Stool
4 21	viral DNA	Cell free body fluid
4 22	viral DNA	Pleural fluid
4 23	viral DNA	CSF
4 24	viral DNA	EPS
4 25	viral DNA	Respiratory sample
4 26	viral DNA	Amniotic fluid
4 27	viral DNA	Forensic sample
4 28	viral DNA	Bone marrow
4 29	viral DNA	Bone
4 30	viral DNA	Dried blood spot
4 31	viral DNA	Soil
4 32	viral DNA	Hair
4 33	viral DNA	Cell supernatant

No.	Target	Sample source
5 01	viral RNA	Whole blood
5 02	viral RNA	Animal tissue
5 03	viral RNA	FFPE tissue
5 04	viral RNA	Plant tissue
5 05	viral RNA	Plant seed
5 06	viral RNA	Rice
5 07	viral RNA	Cultured cell
5 08	viral RNA	Gram (+) bacteria
5 09	viral RNA	Gram (-) bacteria
5 10	viral RNA	Yeast
5 11	viral RNA	Fungi
5 12	viral RNA	Plasma
5 13	viral RNA	Serum
5 14	viral RNA	Buffy coat
5 15	viral RNA	Sputum
5 16	viral RNA	BAL
5 17	viral RNA	Saliva
5 18	viral RNA	Swab
5 19	viral RNA	Urine
5 20	viral RNA	Stool
5 21	viral RNA	Cell free body fluid
5 22	viral RNA	Pleural fluid
5 23	viral RNA	CSF
5 24	viral RNA	EPS
5 25	viral RNA	Respiratory sample
5 26	viral RNA	Amniotic fluid
5 27	viral RNA	Forensic sample
5 28	viral RNA	Bone marrow
5 29	viral RNA	Bone
5 30	viral RNA	Dried blood spot
5 31	viral RNA	Soil
5 32	viral RNA	Hair
5 33	viral RNA	Cell supernatant

No.	Target	Sample source
6 01	viral DNA/ RNA	Whole blood
6 02	viral DNA/ RNA	Animal tissue
6 03	viral DNA/ RNA	FFPE tissue
6 04	viral DNA/ RNA	Plant tissue
6 05	viral DNA/ RNA	Plant seed
6 06	viral DNA/ RNA	Rice
6 07	viral DNA/ RNA	Cultured cell
6 08	viral DNA/ RNA	Gram (+) bacteria
6 09	viral DNA/ RNA	Gram (-) bacteria
6 10	viral DNA/ RNA	Yeast
6 11	viral DNA/ RNA	Fungi
6 12	viral DNA/ RNA	Plasma
6 13	viral DNA/ RNA	Serum
6 14	viral DNA/ RNA	Buffy coat
6 15	viral DNA/ RNA	Sputum
6 16	viral DNA/ RNA	BAL
6 17	viral DNA/ RNA	Saliva
6 18	viral DNA/ RNA	Swab
6 19	viral DNA/ RNA	Urine
6 20	viral DNA/ RNA	Stool
6 21	viral DNA/ RNA	Cell free body fluid
6 22	viral DNA/ RNA	Pleural fluid
6 23	viral DNA/ RNA	CSF
6 24	viral DNA/ RNA	EPS
6 25	viral DNA/ RNA	Respiratory sample
6 26	viral DNA/ RNA	Amniotic fluid
6 27	viral DNA/ RNA	Forensic sample
6 28	viral DNA/ RNA	Bone marrow
6 29	viral DNA/ RNA	Bone
6 30	viral DNA/ RNA	Dried blood spot
6 31	viral DNA/ RNA	Soil
6 32	viral DNA/ RNA	Hair
6 33	viral DNA/ RNA	Cell supernatant

No.	Target	Sample source
7 01	Plasmid DNA	<i>endA</i> (+) strain
7 02	Plasmid DNA	<i>endA</i> (-) strain
No.	Target	Sample source
8 21	Fragment DNA	Gel slice
8 22	Fragment DNA	PCR product
8 23	Fragment DNA	Enzymatic reaction

No.	Target	Sample source
9 01	Protein	His-Tag

X. Troubleshooting

Error	Solution
The Power is not on.	<ol style="list-style-type: none"> 1. Make sure the power connector is connected. 2. Check if the system is connected to the adaptor. 3. Check if the system power is pushed. 4. If everything above has been followed but the power is not on, contact After Service.
The Power is on but the system cannot initiate.	<ol style="list-style-type: none"> 1. Press the power button to block the power. 2. Check if the power was turned off abnormally. 3. When the system power was shut off abnormally, check if there are any residues in tips and/or accessories in the system. 4. Remove any residues that may distract operating the system. 5. Manually move the syringe block of the interior desktop in the center. 6. Turn the power on and check whether the system is initiating. 7. Request for After Service.
LCD Screen is not on.	<ol style="list-style-type: none"> 1. It may be interior problem of the system, call for the After Service.
The system does not operate even RUN button is pressed.	<ol style="list-style-type: none"> 1. Check if the bracket lock is removed. 2. Check if the system is initiating normally when the power is on. 3. Check if there are any residues or obstacles in the system that may interrupt operating. 4. Check if all the accessories are inserted correctly. 5. Check if other buttons in the LCD are working. 6. Request for After Service.
The system is running but does not operate correctly.	<ol style="list-style-type: none"> 1. Check if the base plate is placed correctly. 2. Check if there is remaining residues or any obstacles that may interrupt operating the system. 3. Check if all the accessories are inserted correctly. 4. Request for After Service.
The front door does not close.	<ol style="list-style-type: none"> 1. Check if the base plate is placed correctly. 2. After holding the door to open and when releasing the door to be closed, check if the door is closed automatically by the spring. 3. Request for After Service.

Error	Solution
The base plate does not slide in completely.	<ol style="list-style-type: none"> 1. Check if there are any obstacles or residues that may interrupt moving the base plate. 2. Check if all the accessories are inserted correctly. 3. Request for After Service.
The system is not working even if the door is closed.	<ol style="list-style-type: none"> 1. Check if base plate is located in the correct. 2. Check if the pair of magnet attached to the door is correctly attached. 3. Check if the switch installed at the end of the base plate slide rail is damaged when base plate is pulled out. 4. Request for After Service.
The base plate does not slide out completely.	<ol style="list-style-type: none"> 1. Check inside of the system if there are any obstacles or residues that may interrupt moving the base plate. 2. Check the front of the system if there are any obstacles or residues that may interrupt moving the base plate. 3. Request for After Service.
The accessories are not being able insert.	<ol style="list-style-type: none"> 1. Check if all the accessories are located in the right position. 2. Check if there are any residues in each accessories and the rack. 3. Check if any accessories and the rack's lock pins are bent or damaged. 4. Request for After Service.
During the operation, the syringe block does not pin down the tips.	<ol style="list-style-type: none"> 1. Check if the door is completely closed. 2. Check if the tip and the tip rack is inserted correctly. 3. While inserting the tips, check if any residues or accessories are stuck. 4. Check if 'Stop' or 'Pause' button is pressed. 5. Check if the provided tips are inserted. 6. Check if the tip is bent or damaged. 7. Request for After Service.
Syringe Block is correctly equipped with the tips, but it doesn't move.	<ol style="list-style-type: none"> 1. Make sure the front door is closed. 2. When the block is being moved, check if any residues or accessories are stuck. 3. Check if the cartridge is inserted correctly. 4. Check if 'Stop' or 'Pause' button is pressed. 5. Request for After Service.

Error	Solution
It stops while operating.	<ol style="list-style-type: none"> 1. Check if the power supplied into the system . 2. Check if the Power switch has been pressed. 3. In the lower part of LCD screen, check if there is a delay in the blue progress bar. 4. Check if you have pressed ‘Pause” by mistake. 5. Request for After Service.
The System is running but there is an error.	<ol style="list-style-type: none"> 1. Check if wrong protocol has been used. 2. Check if there is an error in the motor while operating during the movement of syringe block due to residues or accessories being stuck. 3. Check if it is operating after rerunning the same program . 4. Request for After Service.
The system is working but it does not do the elution.	<ol style="list-style-type: none"> 1. Check if Elution rack and tubes are inserted appropriately. 2. Check if the tips are inserted completely. 3. Check if the end of the tip is clogged. 4. Check if sample is inserted into the cartridge. 5. Check if there is any leakage in the syringe block. 6. Request for After Service.
There is a leakage in the syringe block.	<ol style="list-style-type: none"> 1. Stop using the well that were being used and request of after service.
The liquid is dripping in the bottom of the system.	<ol style="list-style-type: none"> 1. Check if the rack and the waste tray and other accessories are inserted in the right position. 2. Check if there is a leakage in the syringe block. 3. Request for After Service.
The heater is not working.	<ol style="list-style-type: none"> 1. Check if the rack and the waste tray and other accessories are inserted in the right position. 2. Check if any solution is dripped in the base plate during the usage. 3. Request for After Service.
There is a burning smell in the system.	<ol style="list-style-type: none"> 1. Disconnect the power and unplug the power connector immediately. 2. Request for After Service.
UV Lamp does not work.	<ol style="list-style-type: none"> 1. Check if the door is closed completely. 2. Request for After Service.

Error	Solution
The Sample Block does not maintain a cold temperature.	<ol style="list-style-type: none"> 1. Inspect the power supply. 2. Verify the Sample Block status through the LCD screen or PC software. 3. Request service from your dealer.
The cooling fan does not function.	<ol style="list-style-type: none"> 1. Inspect the power supply. 2. Verify the Sample Block status through the LCD screen or PC software. 3. Request service from your dealer.
Protocol dose not update.	<ol style="list-style-type: none"> 1. Check if the computer and the instrument are connected with LAN cable. 2. Restart the computer and instrument. 3. Update protocol 4. Re-update protocol

In case of use to <i>ExiStation™</i> with PC	
Error	Solution
The PC software does not operate the instrument.	<ol style="list-style-type: none"> 1. Inspect the network cables connecting the PC and network hub. 2. Inspect the network cables connecting the instruments and network hub. 3. Verify that the network hub power is ON. 4. Verify the PC network settings. 5. Make sure the instrument control software is installed in the correct folder. 6. Request service from your dealer.
Actual instrument operation is different from the expected.	<ol style="list-style-type: none"> 1. Check to see if the 'Start' button was pressed more than twice. 2. Check to see if the software is executed twice. 3. Restart the instrument and software. 4. Request service from your dealer.
No buttons or pictures are displayed within the software.	<ol style="list-style-type: none"> 1. Erase and re-install the software.

XI. Warranty

This instrument is warranted by Bioneer against manufacturing defects in materials and workmanship for a limited warranty period of one (1) year from the date you received your product. Bioneer will either (1) repair the product at no charge if a hardware defect is found or (2) exchange the product if the same hardware defect arises more than three times during the limited warranty period. Any other accessories other than the instrument itself are considered as consumables and warranted for three months. Spare parts for the instrument will be available for five years from the initial instrument release date. If a defect arises after the limited warranty period, shipping and handling charges may apply to any repairs or exchanges of the product undertaken by Bioneer.

Exclusions and limitations

This warranty does not apply: (a) to cosmetic damage, including but not limited to scratches, dents, and broken plastic on ports; (b) to damage caused by accident, abuse, misuse, flood, fire, earthquake or other external causes; (c) to a product or part that has been modified in any way without explicit written consent of Bioneer; or (d) to damage caused by any services performed by unauthorized engineers or service providers.

Obtaining Warranty Service

Please review this User Manual and access the online support referred to in the manual accompanying this product before requesting warranty service.

Service Request Form

Product	<i>ExiPrep™16 Dx, Fully Automated Nucleic Acid Extraction System</i>		
Catalog No.	A-5050	Serial No.	
Date of request			
Date of purchase			
Service Issue	* Please list one service issue or concern per line		
	Issue 1		
	Issue 2		
	Issue 3		
	Issue 4		
Customer Information	Name		
	Company		
	Name		
	Contact	Phone:	Fax:
	E – mail		

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