




**Site Preparation Guide—GeneChip® Array
Station**

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Chapter 1 About This Guide

Contents

This site preparation guide provides you with information you need to prepare your facility and personnel for equipment installation and laboratory set up of the GeneChip® Array Station. It includes:

- A list of Array Station requirements.
- A list of equipment and consumables required.
- Requirements of laboratory preparation.
- Resources necessary for equipment installation.
- Site verification sign-off forms.

In preparing your site for the installation of the Array Station, please note the following points:

- Suitable preparation of your laboratory is essential to a successful installation.
- You may wish to work with your facilities personnel to ensure that your laboratory meets the minimum electrical and plumbing requirements as outlined in this document.
- Ensure that all site requirements are met prior to installation of the instrument and that all customer provided components are on site prior to training.

Once your site location meets all of the requirements outlined, your laboratory is suitable for shipment and installation of your new Array Station. At that time:

1. Complete the site verification checklist in the section, *Forms*, on page 14.
2. Upon receipt of this written confirmation, Affymetrix will contact you by telephone to schedule the installation of your Array Station.

NOTE 

Please do not unpack the Array Station shipping container prior to the arrival of the Affymetrix Representative. The following information is provided for reference purposes only.

Audience

This guide is intended for:

- The individual responsible for overseeing system placement and use.
- The personnel who will schedule, manage and perform the tasks required to prepare your site for equipment installation and laboratory set up.

Components

The HT System consists of several components, each of which has its own requirements for installation. See [Table 1.1](#).

The required components will depend on your sample and array processing plans. If you are only running target preparation with the GeneChip® Cartridge arrays, you will need only the Array Station and the Spectrophotometer. If you plan to run target preparation and hybridization to array plates, you will need the Array Station, the Spectrophotometer, as well as the GeneChip® HT Scanner, the GCOS application (the GeneChip® Operating System), and the HT Software Suite (Image Reader software).

For more information regarding Site Preparation for Array Plate Processing, please refer to GeneChip® Site Preparation Guide: HT Scanner (P/N 702021).

Table 1.1
Required components depending on use

		Target Prep	HT Array Plate Processing
1	Array Station	✓	✓
2	Spectrophotometer (user-supplied)	✓	✓
3	HT Scanner	-	✓
4	GCOS server	-	✓
5	HT Software Suite	-	✓

Obtaining More Information

RELATED DOCUMENTATION

The following documents provide additional information on the HT Scanner site requirements and specifics on target preparation.

1. GeneChip® HT Scanner Site Preparation (P/N 702021)
2. GeneChip® Array Station User's Manual (P/N 701859)
3. GeneChip® Expression Analysis Technical Manual for Cartridge Arrays (P/N 702064)

Chapter 2 Site Preparation

Overview

Site preparation is essential for successful installation for your Array Station. The requirements for installation are outlined in this chapter and are specific to the following:

- the set up of the Array Station
- space allocation
- time and personnel necessary for installation
- requirements for compressed air supply

Site Requirements

ARRAY STATION REQUIREMENTS

Requirement	Specification
Operating Temperature	50° to 86°F (10° to 30°C)
Altitude	Up to 6562 ft (2000 m)
Indoor Use Only	
Power Input	A 15A thermal-operated circuit breaker is required to be installed in the building where the laboratory resides. WARNING Use of a thermal-operated circuit breaker is required in order to prevent premature tripping of the circuit breaker that can be caused by In Rush current.
Line Voltage	120V AC (For US Systems) or 230V AC (For International Systems)

Requirement	Specification
Line Frequency	50/60 Hz
Grounding	Through the power cord
Air Supply	Minimum 70 psi (4.83 bars) Air supply tube 0.25" (6 mm) diameter, approx. 6' in length (1.83 m)
Backup Power supply	Affymetrix highly recommends the use of a backup power supply. Please connect power cord to the in-house power generator.
UPS (Uninterruptible Power Supply, for interim Power disruption – not for extended power supply)	<p>USA</p> <p>UPS-120V, 60Hz, 2.2KW/3.1 KVA, FERRORES, ISOLATING 3.1KVA/2.2 KW FERRUPS 60HZ UPS.</p> <p>14 min. Full Load/35 min. Half Load RunTime.</p> <p>120VAC Input, 120VAC Output.</p> <p>Fixed Input Power cord with NEMA L5-30P Plug</p> <p>Qty 3. NEMA 5-20R Duplex Output Receptacles</p> <p>INTERNATIONAL</p> <p>For international users, since specifications can vary by country, you should provide the appropriate UPS for your particular country based on the US specifications or with the assistance of local technical support.</p>
Plumbing	The laboratory should have an accessible sink or waste drain.

SPACE**Dimensions**

The Array Station has the following crated and installed dimensions. See [Table 2.1](#).

Table 2.1
Dimensions of the crated Array Station

Dimension	Comments
Floor dimensions, or footprint of instrument or dimensions of the instrument as it sits after installation*	76" (1.93 m) (L) x 30" (0.762 m) (W) x 92" (2.34 m) (H) weight 1100 lbs. (499 kg)
Crated Array Station Crate 1	61" (1.55 m) (L) x 42" (1.07 m) (W) x 80" (2.03 m) (H); weight: 1100 lbs. (499 kg)
Crate 2	61" (1.55 m) (L) x 42" (1.07 m) (W) x 80" (2.03 m) (H); weight: 800 lbs. (363 kg)
Total crate weight	1900 lbs.(862 kg)

*The width becomes wider if you include the telescoping arm of the monitor and mouse pad on the workstation. Add a minimum of 20" (0.508 m) to the width if it is extended.

IMPORTANT !

The system is on wheels that lock in place by hand.

The system is not on a pallet, but is in a crate that can be transported by a large pallet jack or fork lift.

The door of the crate acts as the ramp to allow the roll-up and-down of the equipment.

Install the Array Station close to at least one dedicated grounded AC power outlet for the Array Station. The Array Station power supply will supply power to all the required accessories such as the spectrophotometer, computer, etc.

TIME AND PERSONNEL**IMPORTANT** 

Only qualified Affymetrix Representatives should install the Array Station. Do not attempt to install the unit without the presence of an Affymetrix Representative.

At Installation time

Please assist with the following:

- To help coordinate a successful installation, Affymetrix recommends that an individual, who is familiar with the laboratory and computer equipment, be available to the Affymetrix Representative who installs the workstation.
- There must be a minimum of two Facilities personnel to assist the Affymetrix Representative in uncrating the Array Station.
- The Facilities personnel must have access to the loading dock and pallet jacks to move the Array Station shipping skid and associated boxes to a location close to the laboratory for unpacking by an Affymetrix Representative.

NOTE 

The Array Station installation requires approximately eight hours.

COMPRESSED AIR SUPPLY

The system requires an oil-free, dry, regulated air supply of 70 psi (4.83 bars) to:

- Lock the HVH cannula array.
- Move the bulk dispenser.
- Move the Z-8 cannulas.
- Operate the gripper.

CUSTOMER SUPPLIED CONSUMABLES

You must supply the proper consumables such as microplates, deepwell microplates, and pipette tips for use with the Array Station. Refer to *Equipment and Consumables* on page 11 through page 13 for a list of required equipment and consumables

Please note that a package of ten tip boxes with disposable tips are shipped with the Array Station and used during installation.

Chapter 3 Equipment and Consumables

Information on equipment, supplies and consumables is provided in two sections: [Table 3.1](#) lists requirements for target preparation and [Table 3.2](#) lists requirements for HT Array Plate processing.

Spectrophotometer

This is a user-supplied plate-reader that is required for calculating the yield of cRNA after target preparation.

1. SpectraMax Plus 384 (absorbance and fluorescence reader: genotyping and expression)
2. SpectraMax 190 (absorbance reader: expression only)
3. Gemini EM (fluorescence reader; genotyping only)
4. SpectraMax M2 (absorbance and fluorescence reader: genotyping and expression)

NOTE 

Affymetrix tested both the SpectraMax Plus 384 and the SpectraMax M2 for acceptance and determined that each meets the requirements for determining cRNA yield.

Target Preparation Equipment and Consumables

See [Table 3.1](#).

IMPORTANT !

Refer to the Array Station User's Guide for on-going reagent consumables required to run the target preparation procedure.

Table 3.1
Consumables and Equipment for Target Preparation

Consumables/Sizes/ Equipment	Qty Per Run	Make	Cat #
P20 Micropipettor	1	Rainin	L12-200
P200 Micropipettor	1	Rainin	L8-200
P1000 Micropipettor	1	Rainin	L12-20
12-multichannel 200 µL pipetman	1	Rainin	L8-20
8-multichannel 200 µL pipetman	1	Rainin	E3-200
12-multichannel 20 µL pipetman	1	Rainin	E3-1000
8-multichannel 20 µL pipetman	1	Rainin	E3-1000
Multidispensing pipette - 200 µL	1	Rainin	E3-1000
Multidispensing pipette - 1000 µL	1	Rainin	E3-1000
Pipette tips, sterile barrier, RNase free*			
Sealing Roller	1	MJ Research	MSR-0001
RNAZap wipes	1 (100 wipes)	Ambion	9786
DNAZap	1 (2 bottles)	Ambion	9890
Disposable wipes	as needed	Kimberly- Clark (VWR)	34256
Zerostat Anti-Static Gun	1	Zerostat Anti-Static Gun	
50 mL Polypropylene sterile tubes	2	VWR Instrument	20171-028
15 mL Polypropylene sterile tubes	2	VWR Instrument	20171-024
RNase free 1.5 mL Microfuge tubes	1	Ambion	12400
Microseal P pads, adhesive	100	MJ Research	MSL-1002
Carboy		VWR Instrument	16115-147
Microseal F adhesive foil		MJ Research	MSF-1001
Gripper pads	8	Caliper	5207
Stacker tips 200 µL non-sterile	25 racks	Caliper	78641

*Tips must be pointed, not rounded, for efficient use with the cartridge probe arrays. Bevelled pipette tips may cause damage to the probe array septa. This would result in probe array leaking.

Array Plate Processing Equipment, Supplies and Consumables

See [Table 3.2](#).

Table 3.2
Consumables and Equipment for HT Array Plate Processing

Consumables/Supplies/Equipment	Qty per run	Make	Cat #
Hybridization Oven	1	Affymetrix (or matching temp specs)	
Dual Channel Thermocouple	1	VWR Instrument	61220-605

Chapter 4 Forms

Site Verification Fax-Back Form

To ensure that the GeneChip® Array Station is installed successfully, please fill out the information requested for shipping and receiving, space requirements and the site preparation checklist and fax this information (on [page 15](#) through [page 17](#)) to **Affymetrix Instrument Support (408) 481-9670**.

Upon receipt of this written confirmation, we will contact you by telephone to schedule the installation of your Array Station.

This checklist outlines the minimum site preparation requirements to install your Array Station. It is essential to complete all items. These include:

- Appropriate power source for the Array Station — a minimum of one dedicated outlet is required.
- A thermal-operated circuit breaker.
- Appropriate space for the Array Station and available service access.
- Adequate support structure to sustain the total weight and dimensions of the Array Station and any additional instrumentation.
- Air supply.
- Equipment, supplies, and consumables.
- Laboratory personnel available to assist the Affymetrix Representative with the coordination of the installation at the site.
- Once the Array Station is on-site, ensure that shipping skid and associated boxes are close to the laboratory installation location. This equipment must be unpacked only by the Affymetrix Representative.

FAX

GeneChip[®] Array Station Confirmation of Site Preparation

Order Reference Number _____

Contact _____(printed) _____(signed)

Institution/Company Name _____

Shipping Address

State _____ ZIP code _____ Country _____

Phone _____ Fax _____

Contact Email _____

Receiving Facilities

Please check with your Receiving Department about the shipping requirements.

- Do you have a loading dock?
- Do you require a delivery truck with a lift gate?
- Do you have pallet jacks to move the Array Station shipping skid and associated boxes?

I, _____, have verified the statement checked above.

Transporting the Instrument

Determine the path that the Array Station will follow from the loading dock to your installation site. Note that the Array Station is shipped as two units: a crate containing the main instrument

(Caliper-Sciclone) and a crate containing the Twister® Microplate Handler. If the instrument will be transported in the crate, all doorways and passages along that path must be over 61" (1.55 m) wide. Please verify passageway dimensions with a measuring device.

Should it be necessary to transport the crated Array Station on an elevator, make sure that the elevator can carry at least 2740 lbs. (1242.8 kg), the combined weight of the crated instrument (about 1900 lb. or 862 kg) and the transport mechanism and personnel (est. 840 lbs. or 381 kg). Consult with on-site personnel.

I, _____, have verified our facility meets the transport requirements above.

Array Station Space Requirements

We confirm that our facility meets the space requirements as outlined in [Table 4.1](#).

Table 4.1
Dimensions of the Array Station

Dimension	Comments
Floor dimensions, or footprint of instrument or dimensions of the instrument as it sits after installation*	76" (1.93 m) (L) x 30" (0.762 m) (W) x 92" (2.34 m) (H) weight 1100 lbs. (499 kg)
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Total crate weight	1900 lbs.(862 kg)

*The width becomes wider if you include the telescoping arm of the monitor and mouse pad on the workstation. Add a minimum of 20" (0.508 m) to the width if it is extended.

I, _____, have verified the statement checked above in [Table 4.1](#).

When to Contact Technical Support

Under any of the following conditions, unplug the instrument from the power source and contact Affymetrix Technical Support:

- when the power cord is damaged or frayed;
- if any liquid has penetrated the instrument;
- if, after service or calibration, the instrument does not perform to the specifications.

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