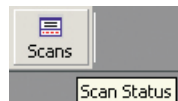## GCOS Scan Status Window

The GCOS software scan status window provides you with the following experiment information.

Status Field	Description
Position	Position occupied by a given cartridge in the AutoLoader carousel
Experiment Name	The experiment name associated with the scan associated with a given cartridge position
Probe Array Type	The probe array type for the scan associated with a given cartridge position
Barcode ID	The unique identifier in the barcode for the scan associated with a given cartridge position
User	Name of the user (experiment owner) for the scan associated with a given cartridge position
Time & Date	The time and date when scan started and another column to indicate when the scan completed
Scan Status	The status of the scan (Autofocus, scanning). This field displays all scanner status strings associated with the scan and retrieved from the scanner. The message strings that may appear in this field are listed to the right. Not all messages will appear.
AutoLoader Door (viewed on status bar)	The status of the AutoLoader door
Number of Cartridges (viewed on status bar)	The number of cartridges in the status task bar after the inventory is complete
History (viewed as a log)	A running history of the last 99 arrays scanned and the information on the current array (if any) being scanned

Status Field Strings

- Autofocus
- Scan Status - % of lines scanned
- Scan Complete status
- Grid alignment errors
- Autofocus Errors
- The experiment XXX has already been scanned
- Chip load failures
- Invalid barcode errors
- Experiment does not exist errors
- AutoLoader door open errors

E-mail Messages

If so configured, the instrument control software sends an e-mail alert for every fatal error that occurs during an AutoLoader run and also for certain other events. The e-mail messages will contain the following information:
1. Date and Time **2.** Scanner ID **3.** All experiment information displayed in the GCOS status window **4.** The error condition information in the table below.

Condition	Detected By	Action/Mitigation
Carousel Home Error	Carousel Home not detected after more than one carousel has rotated with samples.	Log error, stop run, notify user via GUI and e-mail
Grip Home Error	Grip Home not detected after more than full actuator travel; a mechanical error	Log error, stop run, notify user via GUI and e-mail
Feeder Fail	Cartridge not detected in scanner or AutoLoader during load or unload	Log error, stop run, notify user via GUI and e-mail
Load Request Error, Cartridge in Scanner	Cartridge already in scanner when software directed AutoLoader to load a cartridge	Log error, stop run, notify user via GUI and e-mail
Unload Error, Cartridge in AutoLoader	Cartridge still detected in AutoLoader when software directed AutoLoader to unload a cartridge	Log error, stop run, notify user via GUI and e-mail
Cooling Over Temperature	Cooling set point not attained within one hour of activation	Log error, disable cooling, notify user via GUI and e-mail, continue AutoLoader run
Cooling Under Temperature	Cooling temperature < 5°C	Log error, disable cooling, notify user via GUI and e-mail, continue AutoLoader run
Door Opened	Door was opened in the middle of a scan, causing current array to be rescanned	Log error and e-mail
Power failure/restore	Power was lost/or restored to the workstation and/or AutoLoader	If a UPS is attached to the workstation, an e-mail will be sent
Network disconnect	A network disconnect between workstation and scanner was detected	Log error and e-mail user
End of Run	Scanner stops the AutoLoader run upon encountering a chip previously scanned or after scanning 48 chips	Notify user via GUI and e-mail that the run has completed

Contact Information

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P/N 08-0103 Rev. A **For Research Use Only Not For Use In Diagnostic Procedures**

Class I Laser Product

Affymetrix®

GeneChip® Scanner 3000 with AutoLoader

*Version A for GCOS*

Quick Reference Card

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Scanning the Cartridge Barcode

1. Open the GeneChip® Operating Software (GCOS) to the Experiment Information window and place the cursor in the Barcode field.

2. Hold a GeneChip probe array cartridge in front of the barcode reader.
3. Squeeze the trigger until you hear a beep. The reader reads and sends the barcode to the GCOS Experiment Information window, Barcode field.
4. After the software adds the barcode, save the experiment.
5. Repeat steps 1 to 4 until all of the probe array cartridges have been read.
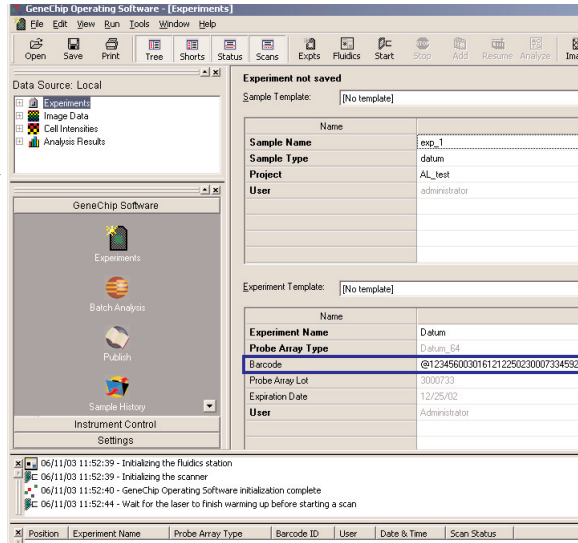
Proper Use of Tough-Spots™ to Prevent Leaking

Before loading the probe array cartridge, follow this procedure to prevent the leaking of fluids from the cartridge.

1. On the back of the probe array cartridge, clean excess fluid from around septa.
2. Carefully apply one Tough-Spot over each of the two septa. Press to ensure that the spots remain flat. If the Tough-Spots do not apply smoothly; that is, if you observe bumps, bubbles, tears, or curled edges, do not attempt to smooth out the spot. Remove the spot and apply a new one.

Note: Apply new spots just before loading the cartridge. Do not use the same spots that may have been used during the overnight hybridization or applied after fluidics washing.

Also: To reduce the risk of leakage, do not use excessively large pipette tips to pierce the septa.
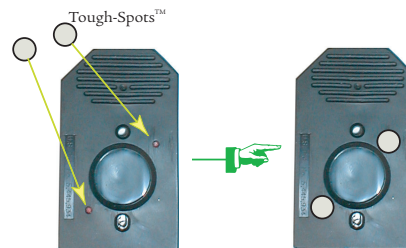
Tough-Spots™

Tough-Spots™: Affymetrix P/N 64-0158 *or*
USA Scientific, Inc. P.O. Box 3565 Ocala, FL 34478 (800) LAB-TIPS P/N 9185-0000

Loading Cartridges

Cartridges should be loaded into the carousel starting at position #1. Additional cartridges need not be contiguous.

Note that only one orientation is possible.

A run will stop after 48 cartridges OR when the same barcode is encountered WITHIN THE SAME RUN.

Loading the Carousel into the GeneChip® AutoLoader

1. Load the carousel into the AutoLoader by inserting the carousel into the AutoLoader and turning the carousel clockwise until the alignment pin seats into the alignment hole.
2. Turn the carousel clockwise until the carousel mounting key flat seats gently into the AutoLoader alignment key. You may have to turn the carousel several times before it will seat into the alignment pin and alignment key.
3. Close the AutoLoader door.

Note: The seating of the key flat is confirmed by a gentle falling of the carousel into the key.

The carousel seats flush with the housing.

Alignment Hole

Carousel Mounting Key Flat

Alignment Key in the Autoloader

Alignment Pin

Inserting Carousel into the Autoloader
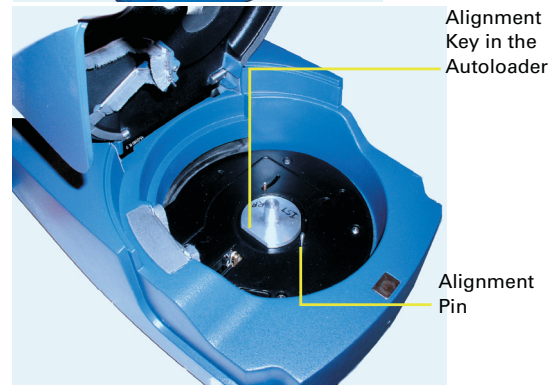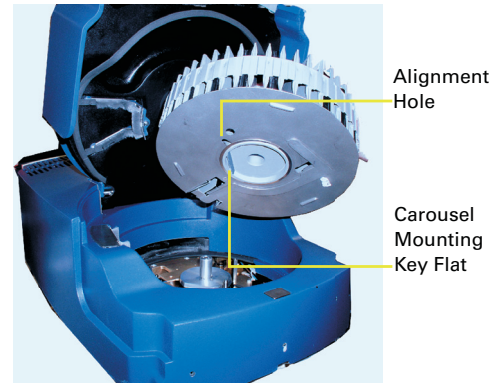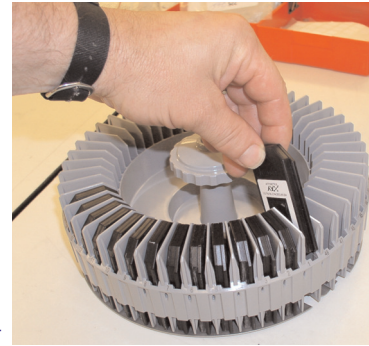
Starting a Scanning Run in Automode

1. Open GCOS. Click the **Start** button in the Instrument Control shortcut bar or in the main toolbar, or select **Run→Start Scanner.**
2. If the arrays are at room temperature, or if you want to scan the probe arrays without waiting for them to warm up, check the appropriate box.
3. If there exists an identical barcode within the database, and if you want to allow the current probe array with that same barcode to be rescanned, check the appropriate box. This will create additional .dat files. The original .dat file **WILL NOT BE OVERWRITTEN**.
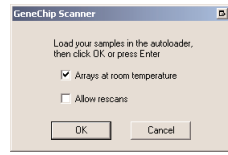
Note: If the AutoLoader encounters a probe array cartridge with the same barcode within the same run, the run will terminate.

4. Click **OK**. The AutoLoader homes and performs an inventory of the probe arrays and the scanning run begins. The AutoLoader blue indicator light will light up signifying that the AutoLoader door is now locked.

## Adding a Probe Array Cartridge During a Scan

1. Click the **Add** button or select **Run→Add Chips.**
2. Click the **Add Now** button if you want to unlock the door and immediately add cartridges.
Note: The AutoLoader blue indicator light will go out signifying that the door is unlocked.
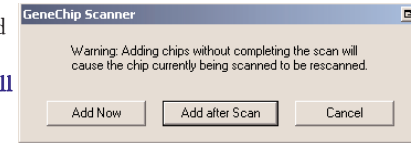
The current scanned cartridge will be rescanned, and the previously created .dat file WILL BE OVERWRITTEN.

3. Click the **Add after Scan** button if you want to wait for the scan to finish before adding cartridges.
Note: When the scan is complete, the AutoLoader blue indicator light will go out signifying that the door is unlocked.

4. After you have added the cartridges, click the **Resume** button or select **Run→Resume AutoLoader**.
Note: The AutoLoader blue indicator light turns on signifying that the door is now locked.

Shutting Down the AutoLoader

1. Close the GCOS software. This is the best way to shut off the laser.
2. Press the I/O button on the front panel to turn off the scanner.

Stopping an AutoLoader Run

1. Click the **Stop** toolbar button or select **Run→Stop Scanner**.
2. At the prompt, click **Yes** to stop the scanner or **No** to continue scanning.

Caution: If you stop the scanner while a probe array is in the process of scanning, you will lose all scan information from that probe array. If you rescan the array, it may be affected due to uneven photo-bleaching. This could potentially make the data from the array difficult to compare to other array data.