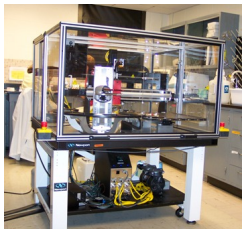
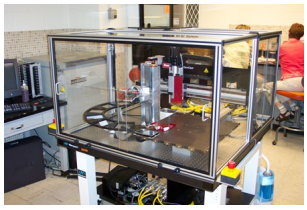
The Omni Grid by Gene Machines is a high throughput automated robot capable of arraying DNA samples from either 96 well or 384 well plates onto various substrates including glass slides and nylon membranes.



The Omni Grid is a fully automated multi-axis robot that takes advantage of a 48-pin head capable of arraying or spotting an entire 384 well plate to over 100 slides in less than eight minutes. The Omni Grid uses grooved pins to transfer DNA sample fragments from a sample plate onto a glass slide. The samples are spotted onto the slides in patterns of rows and columns known as sample groups. The pattern of the sample group can be adjusted according to personal preference. Both the number of pins used as well as the number of glass slides are completely optional and can be arranged according to each user's custom needs. The Instrument holds a maximum of four microwell sample plates of either the 96-well or 384-well variety.



The sample bed of the Omni Grid is fully enclosed by a transparent shield to protect against environmental disturbances and is complete with humidity control, positive pressure control, temperature control and HEPA filtration. Once the DNA has been spotted, the glass slides are placed into a hybridization chamber where they are reacted with various fluorescent dyes of the researcher's choice. This allows the dyes to bind or hybridize to the specified area of DNA in question. The slides can then be analyzed for gene activiaty using the Scanarray Express Microarray Scanner.