

## High-throughput, High-precision Pattern Plotting

### Laser Plotter

# RG 8500II

## Raster Graph



### *High-precision pattern plotting with high operability comparable to office printers*

The exponential spread of digital equipment such as computers, mobile telecommunications equipment, and digital home appliances has resulted in a radical change in the demand structure for printed circuit boards. In particular, there has been a significant increase in the market shares of MCM module boards, BGA and CSP packages, and multilayer high-density boards represented by build-up boards. As advances in electronic information technology continue to accelerate, the need for smaller, lighter, and more densely packed electronic components is also rising sharply. This in turn is increasing the demand for laser plotters, which are used for PWB manufacturing equipment, with upgraded precision, quality, and productivity.

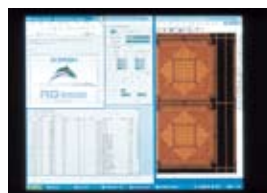
To meet these needs, Dainippon Screen has developed the new RG-8500II of external-drum laser plotters, systems that provide greatly increased productivity compared to previous model. They are designed to receive data from CAD/CAM systems, rasterize it at high-speed, and then output at high-speed with high-precision patterns using our unique multi-channel array of laser beams. The RG-8500II is a high-end model designed for creating the high-precision masks required for BGA, CSP, and similar packages. Both models offer improved operability with touchpanel operation, and both are Internet-enabled so that managing and operating these laser plotters—even from remote locations—is as easy as using an ordinary office printer.

### FEATURES

1. Easy importing of RS-274X, ODB++, Gerber base formats is possible with the CI-8000 integrated CAM system. This also allows creation of layout information on CAD/CAM systems.
2. Quantization errors that could arise after data format conversion are reduced by computing plotting data in units of  $0.01 \mu\text{m}$ . This makes it possible to reproduce highly accurate images using the CAD data.
3. High-speed output with optimum plotting precision is possible for each plotting pattern.
4. Speeding up the film transport system and the adoption of a new loading mechanism achieves a high-performance dimensional stability without applying any stress to the film.
5. The recording drum is manufactured with an enhanced construction that enables better film adhesion and even higher precision operation.
6. Both the initial investment and running costs are kept to a minimum by the use of long-life semiconductor lasers featuring low power consumption.
7. Waiting time in the output section is eliminated by using the vector file areas and converting up to four data files in parallel during plotting.

#### As easy as using an office printer

The design concept behind the Raster Graph systems is that they should be as straightforward to operate as an ordinary office printer. Being Internet-enabled, these laser plotters can be accessed remotely by CAD/CAM systems.



#### High-precision, high-speed drum

The recording drum is manufactured with an enhanced construction that enables better film adhesion and even higher precision operation. Changing film sizes does not affect the system's film-adhesion capabilities, ensuring consistently accurate plotting. An optional high-speed setting is available for the RG-8500 series to provide unbeatable productivity—up to double the throughput of previous model.



#### Advanced film-supply system

The film-Supply tray can supply up to 600 sheets of film up to three different sizes Automatically.



#### Support for full automation

Both systems are designed to support being configured with an optional inline film processor. This means that all steps—from film loading and exposure to unloading and transport to the processor—can be fully automated.



# Laser Plotter RG-8500II

## SPECIFICATIONS

Input	Medium	Network
	Formats	274X, DPF (Barco base), 274D *1, ODB** (VALOR base option)
Output	Exposure system	External drum type
	Beam diameter/ feed pitch	4μm/1μm (25,400 dpi), 5μm/2.5μm (10,160 dpi), 5μm/5μm (5,080 dpi), optional 10μm/10μm (2,540 dpi)
	Plotting speed	47.4 mm/min with 1.0μm feed pitch 119 mm/min with 2.5μm feed pitch 237 mm/min with 5.0μm feed pitch 316 mm/min with 10.0μm feed pitch
	Throughput *2 (500 mm width)	4 sheets/hour with 1.0μm feed pitch 9 sheets/hour with 2.5μm feed pitch 14 sheets/hour with 5.0μm feed pitch 16 sheets/hour with 10.0μm feed pitch
	Film sizes (Feed direction× Scanning direction)	711×813mm (28×32"), 610×762mm (24×30"), 610×711mm (24×28"), 508×610mm (20×24")
	Max. output size	Feed direction : Same as film size less 10 mm each side (left/right) Scanning direction : Same as film size less 25 mm and 10 mm for leading and trailing edges
	Film	Film for laser plotters (laser wavelength: 650 nm, film thickness : 0.175 mm)
	Film supply tray	3 trays 200 sheets of film×3
	Film collection tray	1 tray (up to 5 sheets)
	Autoloading	Standard
Accuracy	Overall accuracy*3	±20μm (in case of 500×600 mm film size)
	Positioning accuracy	±3μm
Environments	Output unit	Temperature : 23°C ±1°C Humidity : 55% ±5%
	Computer	Temperature : 18°C to 24°C Humidity : 40% to 60%
	Electrical requirement	1φ 200V 1kW (output unit) 1φ 100V 0.6kW (PC) 1φ 200V 3.0kW (Blower)
Optional accessories	Film processor	○
	Integrated CAM system CI-7000	○
	Exclusive chamber unit	○
	Menu software	○

\*1 274D format is available in case of using an optional menu software

\*2 Based on Dainippon Screen's standard data with no standby time at the output unit

\*3 Film measurement value after plotting, development, and seasoning

**DAINIPPON SCREEN MFG. CO., LTD.**

We reserve the right to alter product design and specifications without prior notice.

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\*Recycled paper and soy bean ink are used for this print.

Printed in Japan 09-08 03BB