

Carriage Speed Control - Image Input Terminal

Carriage Speed Control

The Carriage Motor is driven at different speeds depending on the task being performed. In addition, while scanning, the Carriage Motor speed depends on the selected magnification setting. Both the Full-Rate Carriage and the Half-Rate Carriage must be driven at faster speeds as the magnification ratios are reduced. Selected values are shown in the following Table. The forward scanning speed equals 225 mm/sec divided by the magnification expressed in decimal form.

Full-Rate Carriage Speeds

Mode of Operation	Full-Rate Carriage Speed
Initialization	112.5 mm/sec or 225 mm/sec
Scanning Forward,	400% magnification 56.25 mm/sec
Scanning Forward,	100% magnification 225 mm/sec
Scanning Forward,	25% magnification 900 mm/sec
Scanning Return, all magnifications	675 mm/sec or 927 mm/sec

Scan Length Control

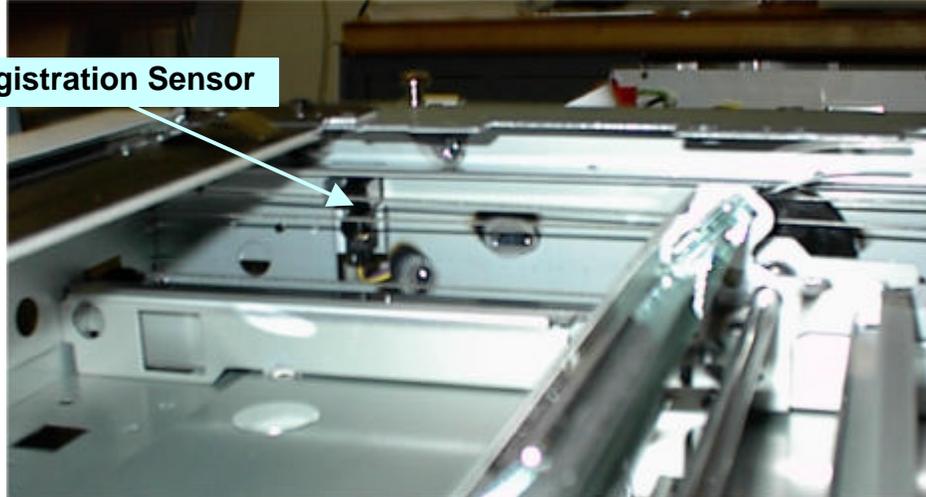
The Carriage Motor emits a pulse every 0.72 degrees of rotation (500 pulses per one complete revolution). This corresponds to 0.0761565 mm of linear travel by the Full-Rate Carriage. These pulses are routed to the Pre-IPS PWB. Carriage position is determined by keeping track of the total number of pulses that have occurred in each direction since the last transition of the IIT Registration Sensor.

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Carriage Speed Control (continued)

Carriage Overrun

IIT Registration Sensor



Unlike some machine designs, this machine does not include over-limit sensors in either the forward or reverse directions. Instead, the current position of the carriages is calculated based on the IIT Registration Sensor transitions and Carriage Motor pulses.