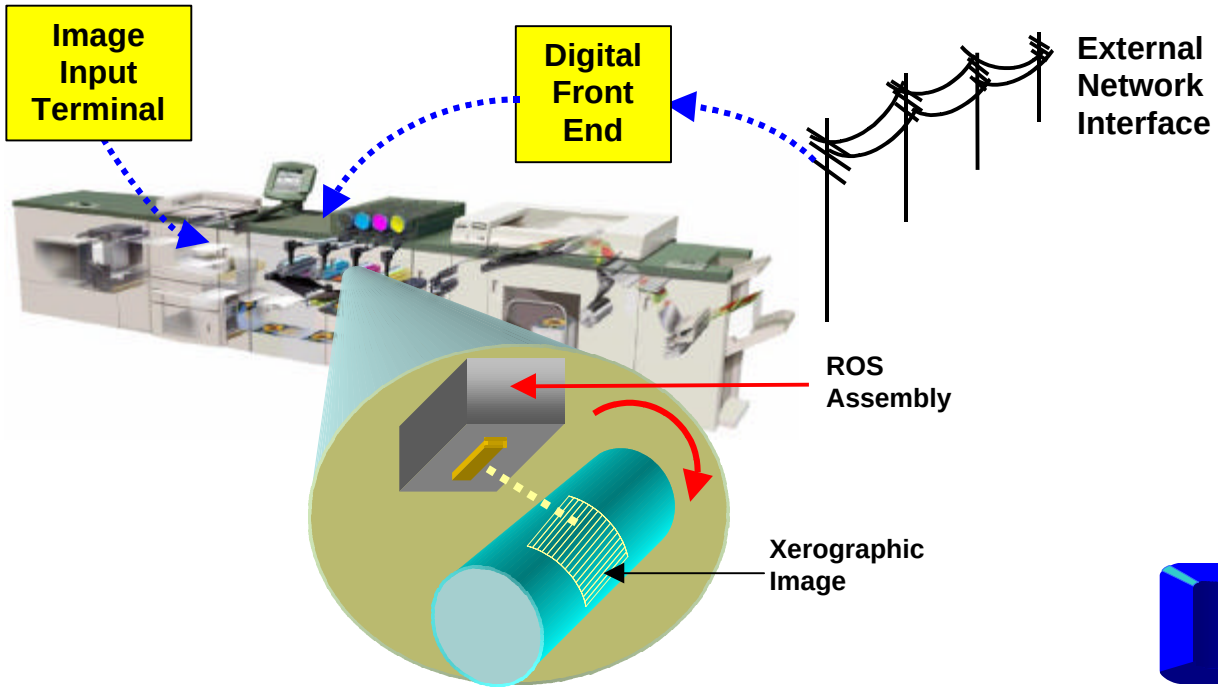
IIT Overview - Image Input Terminal

IIT Overview

Imaging is the process of creating a xerographic image on the photoreceptor by exposing it with a laser **Raster Output Scanner (ROS)**. Depending on the machine configuration, the input to the laser scanner can come from two sources, an external network interface (DFE) or an internally scanned document from the Image Input Terminal, the **IIT.**



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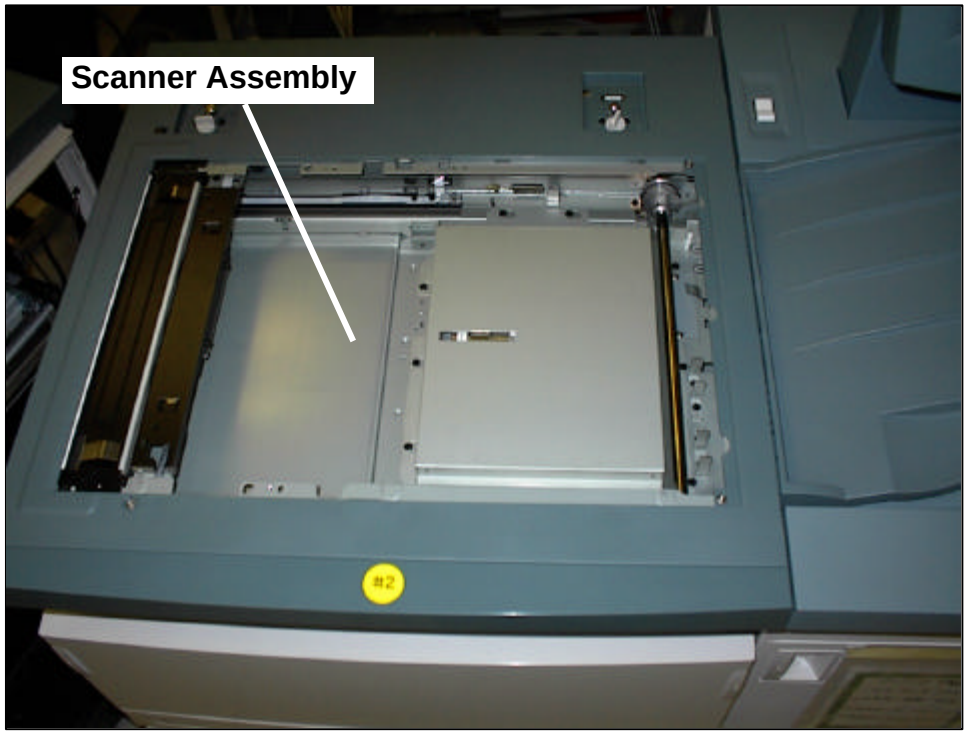
IIT Overview (continued)

The scanner is located under the DADF just below the Platen Glass. Documents requiring scanning can be automatically placed and registered onto the platen by the DADF or manually positioned on the platen by the operator one at a time.



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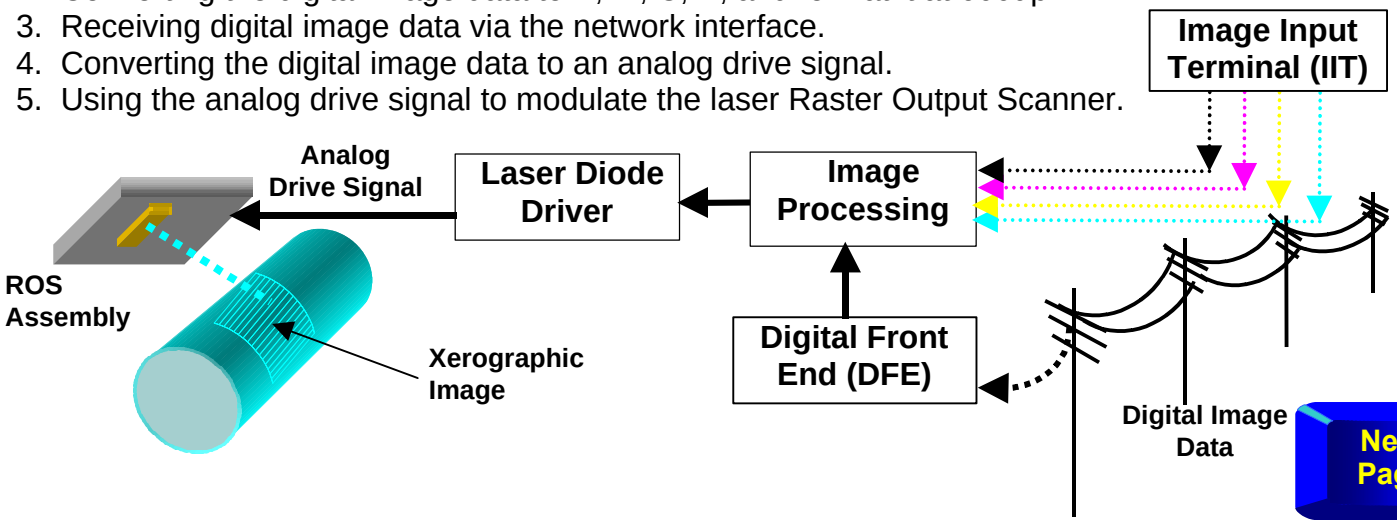
Before the laser can expose an image the input signal to the laser has to be processed by the Imaging software in the machine. The amount of processing will depend on how the machine is configured and the color of the output copy.
The machine can be configured in one of two possible configurations:

- As a network printer, which has a Network Interface (Digital Front End (DFE)) but does not have an Image Input Terminal (IIT) to scan documents.
- And a printer/copier, which has an IIT for document scanning and DFE network capability.

Depending on the configuration, the imaging process can perform up to five functions:

1. Scanning of documents and converting the image into 400dpi RGB digital data.
2. Converting the digital image data to Y, M, C, K, and format it at 600dpi.
3. Receiving digital image data via the network interface.
4. Converting the digital image data to an analog drive signal.
5. Using the analog drive signal to modulate the laser Raster Output Scanner.



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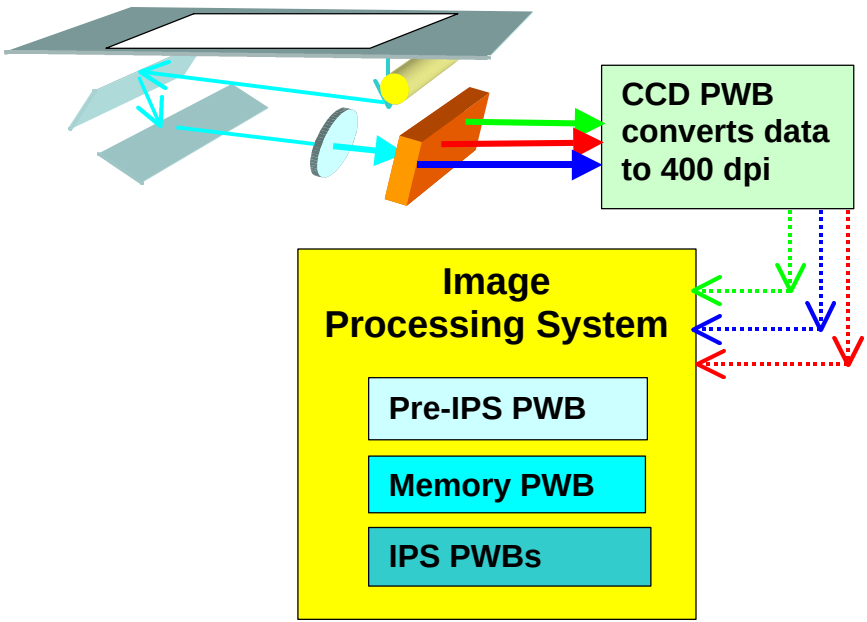
The Image Input Terminal or scanner, has an Exposure Lamp, and a three-color set CCD array. As the scanner assembly illuminates and scans the document, the image is reflected and focused by a lens onto the CCD Array. Filters in the CCD array separate the reflected image into a three-color input to the CCD PWB. The CCD PWB converts the three color images into a 400dpi format digital signal and sends it to the Imaging Processing System.



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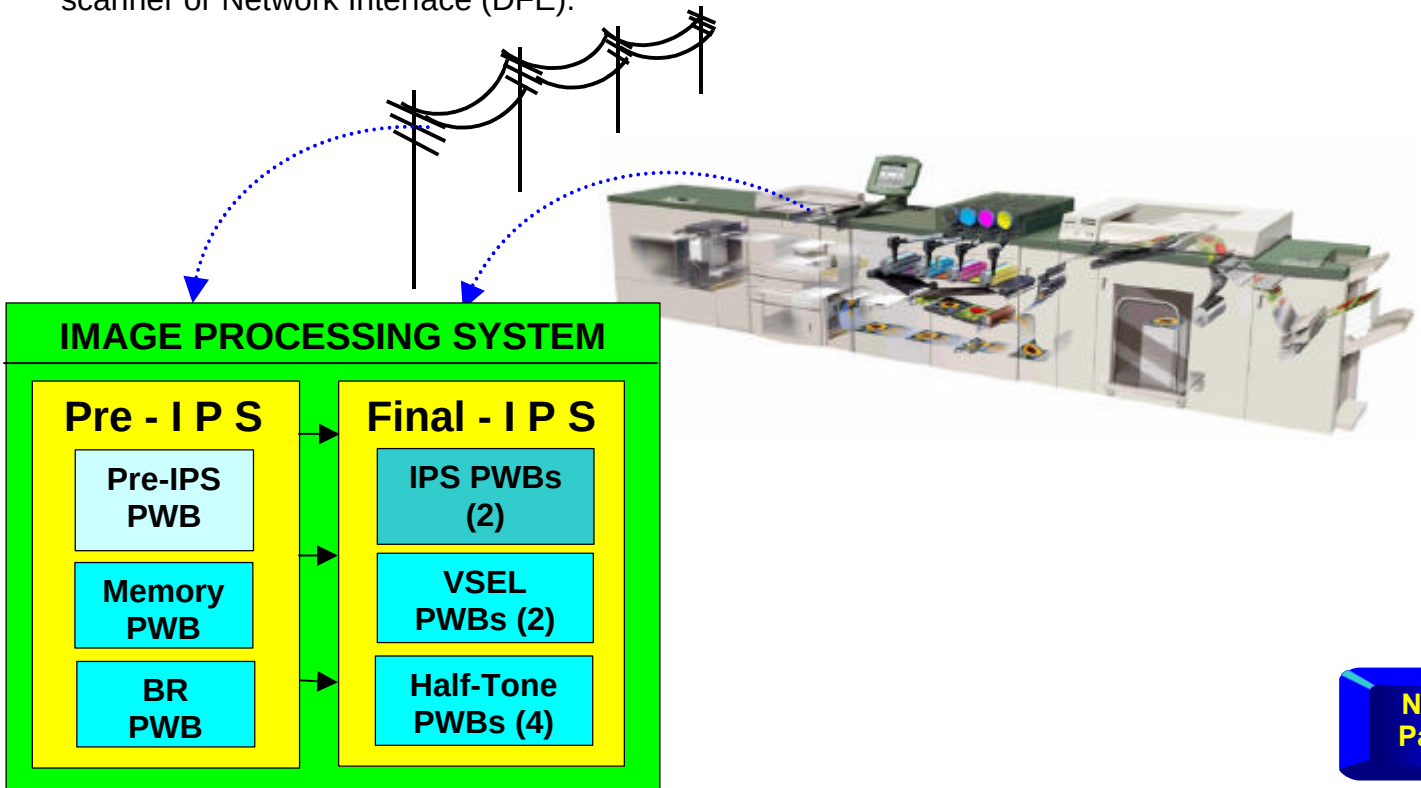
IIT Overview (continued)

The Image Processing System or IPS, is divided into two main functions, a Preliminary Image Processing function and Final Image Processing function. The IPS receives input from the IIT scanner or Network Interface (DFE).



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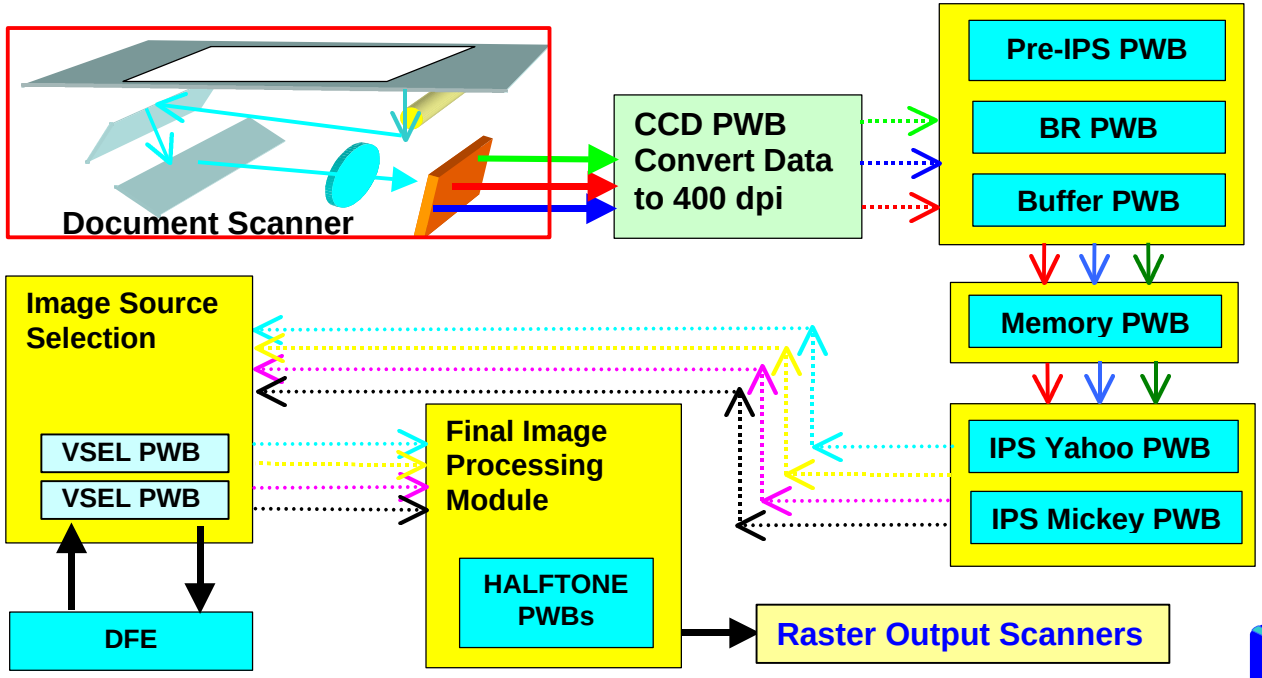
The Pre-IPS PWB receives 400dpi RGB data from the document scanner and converts it to 600dpi RBG data. The RGB data is sent to the IPS Function for YMCK Conversion and Final Image Processing.



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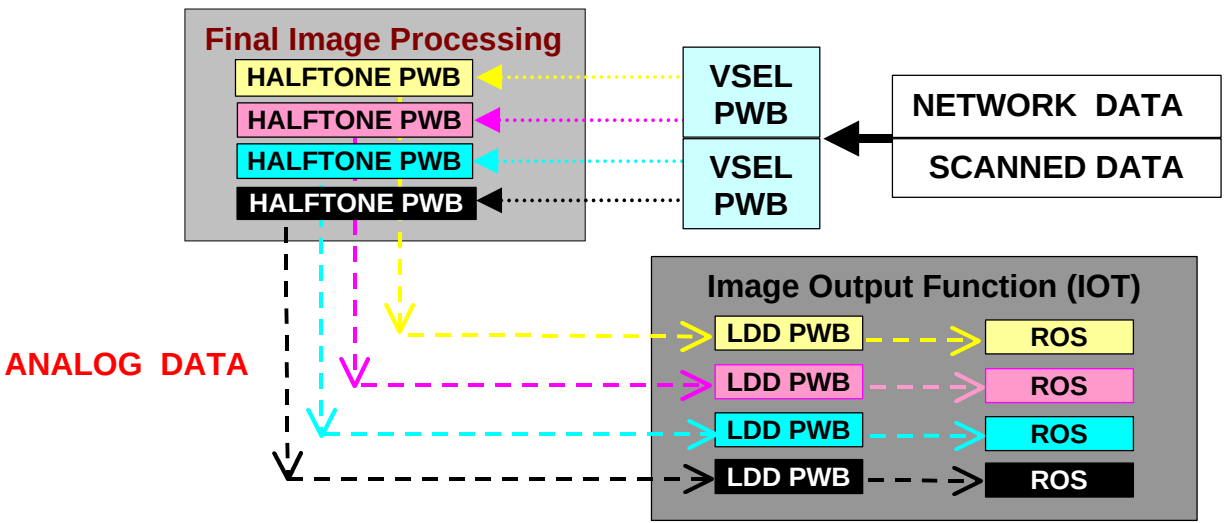
The four Halftone PWB's, in Final Image Processing, receive data from either the Scanner inputs or Network inputs from the VSEL PWBs. The Halftone PWBs determines the pixel pulse values, convert the values from digital data to analog data and send the data to the ROS in the Image Output Function.



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