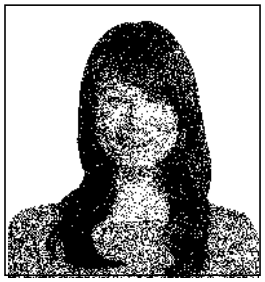
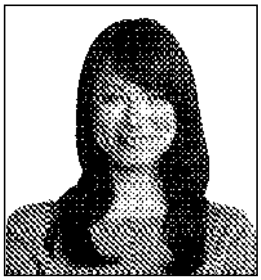
- **Monochrome Conversion:** Specifies the method of monochrome conversion used in printing. Different selections have different effects on the way the image is printed. The options are Diffusion, Halftone, Barcode, Text Mode, and Auto.

  - **Diffusion**: Error diffusion is used primarily where you have a full color (RGB image with 8 bits per pixel) or full gray (single color but still 8 bits per pixel) that you need to print with binary printing (can only print full-on or full-off; i.e., 1 bit per pixel). Typically preferred over halftoning (see below) for most images.



  - **Halftone**: To simulate gray in graphics, halftones are printed. Halftones are arrays of dots arranged in a grid (e.g., 6x6 or 8x8) to represent each image pixel as a shade of gray. For dark gray, more grid dots are black. For light gray, more grid dots are white As the grid size goes up so does the number of possible output levels, 6x6 cell has 36 possible output levels while 8x8 has 64. But as cell size increases, there is a corresponding decrease in resolution.



  - **Barcode**: This is the simplest method for converting from 8 bits per pixel to 1 bit per pixel.

    For example, the input pixel can be a value from 0 to 255. If the threshold is 128, any pixel over 128 becomes full on (1); and any pixel that is less than 128 becomes full off (0). This mode works best for text, barcodes, line art, logos -- everything except continuous-tone pictures.

  - **Text Mode**: This mode can be used when you have black anti-aliased text. Black anti-aliased text is typically black in the center; but on the edges, it has shades of gray that get lighter as you move out form the center of the text. This anti-aliased text will have a softer looking edge that is less sharp than non anti-aliased text.

  - **Auto** (default): This mode analyzes the image and optimizes the conversion (diffusion, halftone, barcode, or text mode) automatically.

- **Monochrome Conversion SUMMARY**
  - **Diffusion/Halftoning:** Use on pictures. Image content dictates if error diffusion or halftoning would look best. For the majority of time, diffusion is better.
  - **Barcode:** Use on text, barcodes, line art, and simple graphics.
  - **Text Mode:** Use with black anti-alised text.
- **Printing Mode -** Sets the type of printing required:
  - **Print**.
  - **Encode Only** (use this when magnetic encoding is the only function desired, printing will not occur).
- **Copies -** Sets the number of copies of cards printed.
- **Auto detect start of image for half panel ribbons -** Enabled only when a half-panel ribbon is installed. Automatically detects the edge of the color image to be printed; see Appendix D for setting the edge manually.

- **Single Feed options (**refer to Appendix E for details on the single-card feed mode)
  - **Card feeder**: The printer will attempt to a pull a card from the Card Feeder. If the Card Feeder is empty, the printer will generate an *OUT OF CARDS* error message.
  - **Single feeder slot**: For each print job, the printer will generate an *INSERT CARD* message. Any cards in the Card Feeder will not be used.
  - **Auto feed:** The printer will attempt to feed cards from Card Feeder first. If Card Feeder is empty, the printer will generate an *INSERT CARD* message. No *OUT OF CARDS* error message will be generated.
- **Ribbon info and options**
  - **Ribbon type** displays the type of ribbon installed in the printer. Tagged ribbons (e.g., YMCKO) are detected and displayed automatically. Untagged ribbons (Black Monochrome and White Monochrome) must be selected from the dropdown menu. Note that the type of monochrome ribbon selected is critical -- white monochrome ribbon will not print acceptably with Black Monochrome selected.
  - **Ribbon combination** is based on ribbon type; for example:

    YMCKOK
    - Front YMCKO, Back K.
    - Front YMC, Back KO.
    - Front YMCKO, Back YMCKO.

    Depending on the printer model and ribbon combination selected, the **Black Panel Options** and **Overlay Varnish Options** buttons are enabled; see Page 55 and Page 61 respectively.