

The logo graphic consists of several overlapping, semi-transparent, curved shapes in shades of blue, purple, pink, yellow, and orange, creating a layered, 3D effect.

# FilmMaker

Version | 4

## Quick Start Guide

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## INTRODUCTION TO PRINTING WITH FILMMAKER

FilmMaker enhances and streamlines your Epson print applications and screen preparations, and (with the exception of the Epson 1400 and R1800) provides Variable Dot Halftone (V-dot) support. With V-dot support, this increases the available number of shades by a factor of (times) 3 for a single black channel, and this process works across multiple black channels to provide up to (times) 12 shades. The net results are higher quality separations that can be produced in less time.

Note that not all features described within this manual and the electronic help may apply to your printer model and version of FilmMaker. It is expected that you have read and understood the Operator's Manual that was provided with your printer, and that you are aware of the printer's capabilities. For example, the Epson Photo Stylus R1800 is the only model listed that does not support Variable Dot Halftones. As such, FilmMaker supports high quality halftones for the Photo Stylus R1800, though not the additional multiples of shades that are achievable using V-dot technology.

### WHAT SHOULD NEW USERS OF FILMMAKER KNOW?

Before describing the new features, the following are previous features that are good for new FilmMaker users to understand.

#### Queue-based Production Management

For each of your printers, you can create a queue tab that collects jobs according to the printer. Further, you can create additional tabs that vary only slightly, so as to segregate certain types of job.

Depending upon your workflow, a queue can be configured to appear like a printer destination to other Windows applications.

#### Hot Folders for Printing from Mac OSX

Though FilmMaker is a Windows application, print jobs can be processed from other operating systems (i.e., Mac OSX) by using a Hot Folder, which is simply a directory that FilmMaker monitors for image files that should be printed. See "Part 6 – Using a Hot Folder with Mac OSX" on page 13.

#### Extra Resolution Presets for Variable Dot Printing

For certain printer models that support variable dot printing, there is a **Resolution** printer option that provides an assortment of preset resolution and dot size combinations that can be used to fine tune the ink density for your films.

#### Send to FilmMaker Shortcut

When FilmMaker is installed, a "Send to FilmMaker" shortcut is added to your PhotoShop package. This shortcut will quickly send jobs to FilmMaker without the need to configure the **File** menu >> **Print** dialog. FilmMaker receives each job as a set of print-ready separations. See "Separations in PhotoShop®" on page 21.

#### Previewing Raw Print Data

For a held job, it can be spooled without printing, and then the print data then previewed on-screen as a pixel-by-pixel display of the actual print output. Monitor technology is only capable of an approximation of the job colors, though the pixel-accurate display is a useful tool for confirming the ink distribution across the job. See "Previewing Print Data" on page 32.

## **WHAT'S NEW FOR PREVIOUS USERS?**

For those that are experienced with previous incarnations of our software, the following summaries should help you get a glimmer of the new and improved features in FilmMaker.

### **Printer and Queue Setup Wizard**

When launching FilmMaker for the first time, there is a new wizard for printer configuration and queue creation for collecting jobs that will be output by that printer. The wizard can be repeated to create queues for other printers. If there is an alternative configuration that you sometimes want to use for your printer, then use the wizard to create a separate queue with those settings. See “Part 3 – Printer and Queue Setup Wizard” on page 9.

### **Ink Density Wizard**

After completing the Printer and Queue Setup wizard, the Ink Density Wizard provides an opportunity to print a series of sample targets that help you determine the optimum ink density for your printer. This wizard can be repeated from the Queue menu. See “Part 4 – Ink Density Wizard” on page 12.

### **In-RIP Separations**

Instead of using your graphic design software to create separation, FilmMaker can now automatically generate separations for the CMYK planes, plus any spot colors that are present. For example, importing a PDF into FilmMaker will cause separations to be created, unless separations already exist within the file. See “In-RIP Separations” on page 35.

### **Independent Curve Set Options**

When In-RIP Separations are enabled, distinct sets of curve information can be defined for your prepress proofing and main production work. This allows you to adjust the ink levels for each process independently. See “In-RIP Separations” on page 35.

### **Jitter**

For the halftone dots that compose a print job, Jitter is a means of introducing minute randomness to the dot shape, such that patterns are less evident within the halftone. The amount of Jitter can be adjusted for different tint ranges, such that the shadows, midtones, and highlights can each have independently set Jitter amounts. See “Jitter” on page 35.

## GETTING STARTED WITH INSTALLING FILMMAKER

FilmMaker is provided with a USB security device to prevent unauthorized use or pirating of the software. This device plugs into a standard USB port of the computer, and it is transparent to other applications. Only FilmMaker is aware of the device.



Connect your orange dongle  
**BEFORE** installing your  
FilmMaker software!

### Policy On Lost Or Stolen Security Devices

- The USB security device provided with FilmMaker is your proof of purchase. If the dongle is lost or stolen, then that is equivalent to losing the entire software package, and a new package of FilmMaker must be purchased.
- In the event of a damaged security device that must be replaced, there is a nominal fee for EXCHANGING a new device for the older device, where the older device must be reclaimed by CADlink.  
This fee is waived where product is still under warranty.
- Regardless, it is recommended that you ensure that your security device is covered under your business insurance policy.

### Temporary License Files

- License files are included with your USB dongle, which are used to confirm the features within your CADlink products.
- If a replacement dongle is being shipped to you, then you will typically be issued “temporary” license files that will enable you to continue using your CADlink products.
- Temporary license files will cease working after a set criteria, though the expectation is that your replacement dongle will arrive prior to expiry.
- Please note that the replacement dongle will be provided with new “permanent” license files that will replace the temporary license files.

### Storing Your License Files

- In the event of lost license files, there is a nominal administrative fee for issuing replacement license files.  
The fee is waived if the Free Support period is still active. Otherwise, replacement license file issues are treated like Tech Support requests.
- When CADlink sends you new license files, it is important that you create backups of the license files, so they can be easily located when re-installing your CADlink products on new equipment.
- In the case of the orange USB flash drive dongle, your license files can be stored on the dongle itself. When re-installing your CADlink products, license files upon the dongle will be automatically used.

## PART 1 – PROGRAM INSTALLATION

At this point, you have confirmed that your FilmMaker package contains both the installation CD and security device. The following steps are an overview of installing FilmMaker. Within the installation wizard, further information is provided with each individual stage of the wizard.

1. Connect the USB security device **NOW**.
2. Insert the FilmMaker install CD into your CD-ROM drive. The install wizard should “auto start”. If the install wizard fails to auto start, then you will need to start the installation process manually, as follows:
  - a. From the **Start** menu, choose **Run** to open the **Run** dialog.  
For Windows 8, use [**Windows** + **r**]
  - b. Click **Browse** and locate the setup.exe file that is on the CD in the CD-ROM drive.
  - c. Click **Open** to choose the setup.exe file, and click **OK** to close the **Run** dialog.
3. After the installation is complete, click **Finish** to conclude the install wizard. Proceed to “*Part 2 – Printer Installation and Setup*”.

## PART 2 – PRINTER INSTALLATION AND SETUP

After FilmMaker has been installed, you are ready to launch FilmMaker and send a print job.

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**Note:** Your FilmMaker install CD should still be in the CD-ROM drive, such that printer support files can now be installed.

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1. From the **Start** menu programs flyout, choose FilmMaker.
2. The **Printer and Queue Setup Wizard** will launch, which will guide you through the steps to install your initial printer and configure its queue for managing print jobs. Proceed to “*Part 3 – Printer and Queue Setup Wizard*”.

## PART 3 – PRINTER AND QUEUE SETUP WIZARD

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**Note:** The number of wizard pages will vary according to your printer choice.

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FilmMaker is a queue-based production manager, meaning that two-or-more jobs can be accumulated and sorted according to their job parameters. For example, a separate queue should be created and assigned to each printer. Likewise, multiple queues can be created for a given printer, where each queue is used to accumulate jobs for a specific type of media.

From a designer’s standpoint, each queue is like a print destination that they can print to via **File** menu >> **Print** in their graphic design application (Fig. 1). The designer would choose the queue that best corresponds to the type of job they want processed.

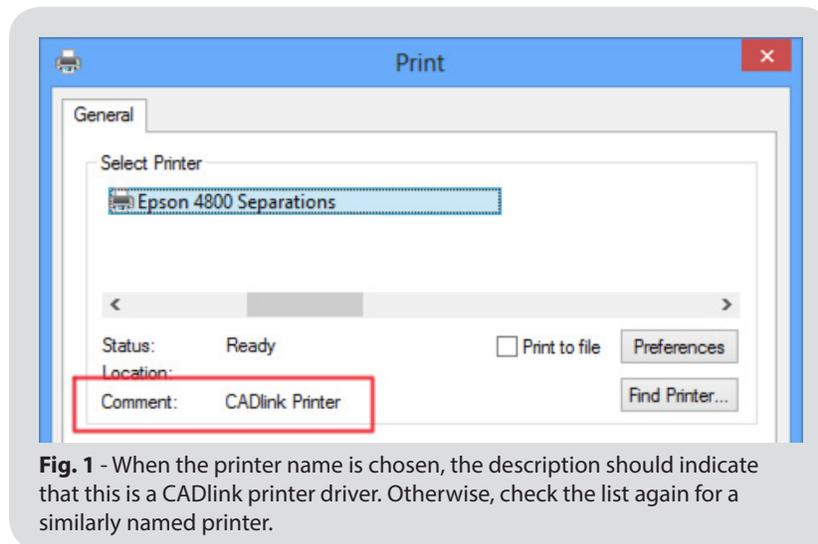
By using the queues to accumulate jobs from various designers, jobs can be held pending, until the given printer is available, or a given roll of media has been loaded, etc.

The **Printer and Queue Setup Wizard** will prompt you to configure a queue for your printer. Each wizard page prompts you for information about how you want the queue to be configured, and the sequence of pages will vary according to your choices. The following sections elaborate on some of the wizard pages that you might encounter.

## QUEUE TYPE

The wizard pages will vary according to what type of printing you want to perform. The choices are:

- A. **Film Separations:** Use this option where black ink will be used to print separations for each of the main color components (i.e., CMYK, plus any spot colors).
- B. **Sublimation Transfers or Color Printing:** Use this option where color inks (i.e., CMYK) will be used print an image in one-or-more passes.



## PRINTER INSTALLATION AND CONNECTION

You are now prompted to choose the printer and output port. Click [...] to configure the port.

Before clicking **Next**, please confirm that your printer is connected to the indicated port, and that the printer is ready for printing. Later in the wizard, you will be asked to print one-or-more test pages that will aid you in choosing the optimum ink settings for your printer.

There are a variety of output ports supported, though the following two are the most widely used:

- TCP/IP** - Choose this option for printers that are connected to your network via Ethernet connectors.
- USB** - Choose this option for printers that are connected via USB port. If the printer is connected to a USB hub, then confirm with the printer manufacturer whether a powered USB hub is necessary.

Clicking **Next** will proceed with installing the support files for the printer.

## MEDIA SETUP

The available media choices will depend upon the printer model.

- A. **Roll Media** - When printing to a roll, it is common to perform either automatic or manual nesting.
- B. **Sheet Media** - Use the page size set within FilmMaker. Typically, this is done when incoming jobs are intended for a fixed sheet size, or assorted jobs will be nested upon the sheet.

### Choosing Roll versus Sheet Media

The choice of roll versus sheet media largely depends upon user preference. However, the following are some printer-specific notes:

- The Epson 1400 is sheet feed only.
- The Epson 1800 has limited roll feed functionality, and it is recommended that the 1800 only be used for printing sheets.
- For the Epson 4800/7800/9800 series printers, and Roland VP-540, roll media is generally preferred.
- For roll mode, you most likely want to configure for auto nesting or manual nesting.

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**Note:** Printer notes and comments are listed in *Appendix A*.

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### PRINTER CONFIGURATION

The **Resolution** refers to the quality at which the FilmMaker RIP will process jobs through this queue before sending data to the printer. The choices somewhat depend upon what ink you are using, and how many channels are being used to print black ink.

- Higher resolutions increase the print quality, including high line screens, though more time will be required for calculations.
- Higher resolution applies more ink, so greater ink density will be obtained.
- If greater ink density is desirable, then more ink would be obtained by choosing a resolution that indicated a larger dot size (i.e., SmallDots >> BigDots).
- Note that “MD” is sometimes used to indicate “Maximum Dot.”

Choose the **Resolution** that best corresponds to the jobs that the printer will be expected to perform. If there are alternative **Resolution** settings that you believe would be occasionally useful, then after you complete this wizard, you can use the wizard to create additional queues using the alternative resolutions that you need. In this manner, print jobs can be sorted by sending them to the queue that has the desired **Resolution** setting.

For printers that have multiple ink channels, the **Ink Setup** is used to define which of these channels have been loaded with black ink. For example, consider the following four choices:

- Multiple Black Matte
- Multiple Black Photo
- Single Black Matte
- Single Black Photo

The “multiple” options indicate printers that have more than one ink channel, for which you will be provided checkboxes to identify any additional channels that have been loaded with black ink.

## HALFTONE SCREENING

The halftone refers to the pattern wherein the printer will apply dots of ink. The intent is to avoid obvious patterns that distract from the finished print. Though your graphic design application can be capable of providing halftone information with your print jobs, it is recommended that FilmMaker be used to generate the halftone.

If there is doubt about the best halftone settings, then choose the defaults for now, and consult the Halftone Screening sections for more information. If you need different halftone settings, then you can change them later using the **Queue Properties** dialog.

## NAME YOUR PRODUCTION QUEUE

After completing this wizard, a queue will be created using the unique name specified here. This wizard can be used multiple times to create more queues, and in production you will be able to switch between queues by clicking its named tab.

## PRINTER AND QUEUE SETUP COMPLETED

At this point, queue creation is complete, and you can click **Save** to continue.

- If you are creating a queue for film separations, then proceed to “*Part 4 - Ink Density Wizard*”.
- If you are creating a queue for sublimation transfers or color printing, then proceed to “*Part 5 - Test Print to FilmMaker*”.

## PART 4 – INK DENSITY WIZARD

Ink density is the primary factor that affects printed film quality. For example, too little ink can cause fuzzy dots when exposing the film, whereas too much ink increases drying time and risks bleeding between halftone dots. Despite these risks, it is desirable to achieve the highest possible ink density because of the higher film quality that can be obtained at lower print resolutions.

FilmMaker will launch when completing the **Printer and Queue Setup Wizard**. If you have created a queue for film separations, then you now have the option of continuing with the one-page **Ink Density Wizard**, which involves printing sample targets to determine the optimum ink density for your printer.

---

**Note:** The Ink Density Wizard can be re-launched via **Queue** menu >> **Ink Density Test Page**.

---

1. Follow the wizard steps as indicated.
2. Of the two **Print Test Page** buttons, click the “low ink level” button.
3. In the FilmMaker window, an “Ink Density Target” job will be placed in the queue for your printer.
4. When this job is printed, you will see that it is a collection of tint swatches that vary by volume of ink.
5. The goal is to visually inspect (or optionally use a densitometer) to determine the swatches that have obtained the best result.
6. Optionally, you can click the “high ink level” button to print tint swatches at a greater volume of ink.
7. For step (3) of the **Ink Density Wizard**, enter the swatch number that had obtained the best result.

Once the Ink Density Wizard is complete, proceed to “*Part 5 – Test Print to FilmMaker*”.

## PART 5 – TEST PRINT TO FILMMAKER

Printing to FilmMaker is like printing to a desktop printer. For example, suppose that your graphic design application uses the standard **Print** dialog.

1. From the design application **File** menu, choose **Print** to open the **Print** dialog.
2. Choose the printer name from the drop-list.  
The printer description should indicate that it is a “FilmMaker” or “CADlink” type of print destination, which indicates that print jobs will be processed through FilmMaker.
3. If the printer description does not indicate “FilmMaker,” then search for another (similar) printer name from the drop-list.
4. From the **Print** dialog, click **OK** to send the print job.
5. In FilmMaker, right-click the received job and choose **Print** from the context menu.  
If your job is unexpectedly nested into multiple jobs, or your multiple page job is layered into a single job, then please refer to “Page Overlay” on page 29.

Completing the above steps confirms that FilmMaker has been configured properly to receive and print jobs.

## PART 6 – USING A HOT FOLDER WITH MAC OSX

FilmMaker can designate a “hot folder,” wherein any job files placed within that folder will be automatically processed by FilmMaker. In this manner, though FilmMaker is a Windows application, Mac OSX users on your network can print jobs to FilmMaker.

### Create an Empty Hot Folder

1. Create an empty directory on your FilmMaker computer, or elsewhere on your network. This will be your **Hot Folder**, which must satisfy the following two conditions:
  - a. The FilmMaker computer must have login permission to read and write to the Hot Folder.
  - b. Your graphic designers must have file write permissions to the Hot Folder.

### In FilmMaker

2. Choose **Queue** menu >> **Properties**.
3. Click the **Hot Folders** tab.
4. Tick the **Enable queue hot folder** checkbox, which opens a browse dialog.
5. Browse to the folder created in step (1). Please note that the **Hot Folder** must be empty when it is initially chosen.

---

**Note:** Sometimes the operating system can place hidden files in a directory.

---

6. Click **OK** to accept the **Hot Folder** path.
7. Click **OK** to close the **Queue Properties** dialog.

### In the Design Application

8. In the design application, prepare the print design.
9. Choose **File** menu >> **Print** (or the equivalent according to the software being used).  
If it is permitted by the design software, then the design file can be “printed” to a data file that is placed directly into the **Hot Folder**. In this manner, printing will be seamless because FilmMaker will automatically process the file.  
Alternatively, **Export** the design file in a commonly accepted format (e.g., EPS, AI, PDF, BMP, JPEG, TIFF, etc.), and copy the design file into the **Hot Folder**.

---

**Note:** Some design software create a temporary, intermediary file that FilmMaker does not recognize (i.e., FilmMaker will report that it does not recognize the intermediary file). Avoid exporting the design file directly into the Hot Folder.

---

## WORKING WITH SEPARATIONS AND HALFTONES

### OBTAINING PHOTOREALISTIC PRINTS

Screen printing of hand-drawn art is traditionally performed through the combination of spot colors, where each color is applied to a specific region of the substrate (i.e., paper, T-shirt, etc.). Having an overlap between color regions can be useful in achieving a specific visual result, or to create the appearance of more colors than the number of inks used.

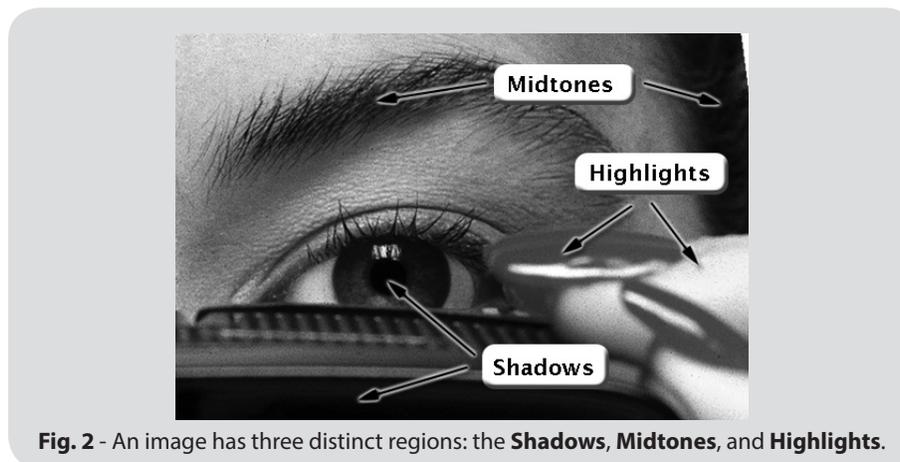
For computer generated art and photographic images, the complexity of the artwork can produce difficulties in obtaining the desired quality. If the customer expects photorealistic prints, then using spot colors can risk a print that appears too posterized (e.g., splotchy with abrupt color shifts).

To produce photorealistic prints, a common technique is to prepare the artwork as a set of CMYK separations, which are then used to print the artwork on a 4-color press (i.e., spot cyan, spot magenta, spot yellow, and spot black). Overprinting these spot colors will reproduce the colors of the original artwork.

The printing of CMYK separations uses halftones, which are a classic printing technology that enables the printing of detailed images with a minimum of inks. Indeed, each color separation is a halftone.

- A halftone is a means of applying gradient dot patterns using a single ink, such that the dots form different shades (tints) of the ink.
- Where the dots are small, they will appear further apart, which produces a light shade of the color that is closer to the substrate color (i.e., a white or black shirt).
- Similarly, larger dots will appear closer together, which produces a darker shade that is similar to a solid fill of the ink.

In Fig. 2, there are three distinct regions that are crucial to quality printing: Shadows, Midtones, and Highlights.



### ***THE SHADOWS***

- These are the darkest regions of the image, where halftone dots are largest and risk blending together.
- On a tint scale of {0..100%}, shadows would consist of (roughly) the [85..100%] tint region of the image.
- The challenge with shadows is that the dots blend together and obscure the darkest details of the image.

### ***THE HIGHLIGHTS***

- These are the lightest regions of the image, where halftone dots are smallest and appear spaced apart.
- On a tint scale of {0%..100%}, highlights would consist of (roughly) the {0..15%} tint region of the image.
- The challenge with highlights is that the individual dots, when used to expose emulsion, can be inadvertently washed away with the unexposed emulsion.
- It is often difficult to retain dots in the 5% range, and there are often challenges with any dots less than 10% tint.

### ***THE MIDTONES***

- These are the mid-range regions of the image between the shadows and the highlights.
- On a tint scale of {0%..100%}, midtones would consist of the [15..85%] tint region of the image.
- For midtones, the individual dots will vary according to the image details. A concern with midtones can occur when too much ink has been absorbed by the substrate, such that image details are lost (e.g., the detail in a person's hair, or the texture of a grassy field).

## CHOOSING HALFTONE SETTINGS

Each CMYK color separation has its own halftone (Fig. 3). As such, each separation will have its own shadows, midtones, and highlights according to the strength of that color component in the original image.

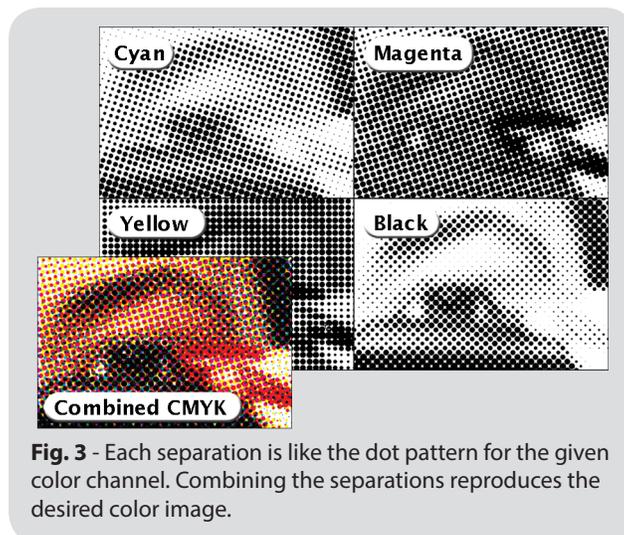
- During the final printing process, cyan ink is printed using the cyan separation, magenta is printed atop this with the magenta separation, and so on.
- Correct alignment of the separations is crucial to reproduce the original image.

---

**Note:** The actual order in which the colors are printed can vary. The general rule is that yellow is printed last to avoid obscuring the yellow halftone dots.

---

Depending upon the application, there can be several methods of producing CMYK color separations. When creating such separations, the halftone settings for each separation must be specified. The terminology can vary, but generally the halftone controls will be Dot Shape, Frequency, and Angle.



**Fig. 3** - Each separation is like the dot pattern for the given color channel. Combining the separations reproduces the desired color image.

### ***DOT SHAPE***

Depending on the software application, there are a wide variety of shapes to choose for your halftone dots. The choice of shape depends on what you consider to produce good detail in your prints. For example, round and elliptical shapes are common, though test prints can determine whether other shapes are valid for a given artwork.

### ***FREQUENCY***

The halftone frequency is measured in Lines Per Inch (lpi), which indicates the resolution of the dot shape.

- There is a Ratio between the frequency of your halftones, and the mesh count used when printing.
- As a rough guide for screen printing, this Ratio varies from 3 to 5, and it is used to avoid losing the highlight dots of the halftone. If unsure, then use a ratio of 4.
- If you have already chosen a mesh that is appropriate for your artwork, then the  $\text{Frequency} = \text{Mesh Count} / \text{Ratio}$ .
- Conversely, if you know the halftone frequency that is appropriate for your artwork, then the  $\text{Mesh Count} = \text{Frequency} * \text{Ratio}$ .

---

**Note:** When designing artwork in your graphic software application, the best image resolution can be determined by  $\text{Resolution} = \text{Frequency} * 2.5$ , which will help to avoid creating undersized dots in the highlight areas of the halftone.

---

### ***ANGLE***

To avoid unexpected patterns from appearing in the final print, each of the CMYK separations must be printed at specific angles. The choice of angles is quite subjective, though specific angles may be preferred according to the printing technology being used.

### OFFSET PRINTING

As a starting point for comparison, a typical set of (CMYK) angles for offset printing is (108, 161, 90, and 45). Other combinations of angles can be equally valid, provided that consistent results are produced. For example, guidelines for other offset angles are:

- Black is always set at 45°
- The halftones should be offset by 30° from each other
- No two angles should be at right angles to one another (i.e. 90° between two halftone angles)
- To help prevent right angles, Yellow is set at 90° (i.e., 45° between Black and Yellow). Yellow is chosen for this angle because it is the least noticeable color at this angle

### SCREENPRINT AND FLEXOGRAPHY (FLEXO)

In comparison to typical offset printing angles, here are typical (CMYK) angles used with screen printing in combination with flexographic techniques:

Cyan (C)	Magenta (M)	Yellow (Y)	Black (K)
7.5	37.5	22.5	67.5
22.5	52.5	7.5	82.5
20	50	5	80
22.5	112.5	52.5	142.5

- Spot colors are typically printed at the same angle as Yellow.
- Though screen printing typically makes use of an Elliptical dot shape, flexo generally uses a Round dot shape.

### LITHOGRAPHY AND FLEXOGRAPHY

For lithographic techniques in combination with flexography, typical (CMYK) angles are:

Cyan (C)	Magenta (M)	Yellow (Y)	Black (K)
15	75	90	45
105	75	0	45
0	60	15	30
0	30	15	90

- Spot colors are typically printed at the same angle as Yellow.
- Flexo generally uses a Round dot shape.

Common (CMYK) angles for T-shirt printing are:

Cyan (C)	Magenta (M)	Yellow (Y)	Black (K)
15	45	75	75
22.5	52.5	82.5	82.5

- Though unconventional, good results are achieved by printing spot colors (including spot white) at an angle of either 15 or 22.5 degrees.
- Typically want to use an Elliptical dot shape.
- For an automatic press, use a Frequency of 65 lpi in combination with a 355 Mesh Count.
- For a manual press, use a Frequency of 55 lpi in combination with either a 305 or 330 Mesh Count.

## CREATING SEPARATIONS IN FILMMAKER

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Queue menu >> Properties >> Calibration Control >> In-RIP Separations

---

Whereas it is often the case that your graphic design software can create separations, enabling the **In-RIP Separations** checkbox will cause the FilmMaker RIP to automatically generate separations for the CMYK planes, plus any spot colors that are present.

Primarily, the advantage of In-RIP Separations is that separations can be generated from (say) a PDF file, rather than needing graphic design software to generate the separations for you. In addition, you can specify the halftone for each separation.

In-RIP Separations are enabled by default. However, FilmMaker will only create separations for jobs that have not already been prepared as separations.

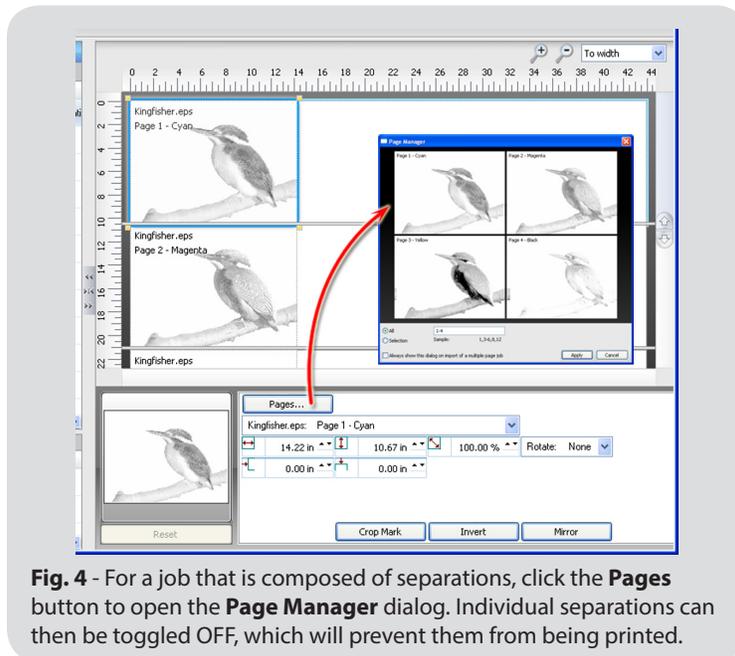
Note that **In-RIP Separations** has two **Curve Set** options that are used when your workflow involves twin parallel printing processes. This allows you to adjust the ink levels of each process independently.

- Calibration** - Adjust this set of curves for your prepress proofing, or for printing the customer proof that will be used for approval before entering full production.
- Press Calibration** - Adjust this set of curves for your main print production run.

## CHOOSING INDIVIDUAL SEPARATIONS

When separations for a job have been received in FilmMaker, the individual separations can be selected for output as follows:

1. For the selected job in FilmMaker, click the **Pages** button (Fig. 4).  
Alternatively, right-click the job and choose **Pages**.
2. The separations will be displayed in the **Page Manager** dialog.
3. Clicking a given separation will toggle it OFF (i.e., grayed out), which indicates that it will not be printed. Clicking the separation will toggle it ON (i.e., active).
4. After toggling OFF the desired separations, click the **Apply** button.
5. Only the active separations will be available in the Visual Print Manager.



**Fig. 4** - For a job that is composed of separations, click the **Pages** button to open the **Page Manager** dialog. Individual separations can then be toggled OFF, which will prevent them from being printed.

## SPLITTING SEPARATIONS INTO INDIVIDUAL JOBS

By default, separations for a job are grouped and displayed as if they were a single job, though the Visual Print Manager can be used to inspect the individual separations. To ungroup these separations and display each separation like an individual job:

- Right-click the job and choose **Split Pages**.

Note that splitting separations into individual pages cannot be reversed.

## SEPARATIONS IN OTHER APPLICATIONS

If In-RIP Separations are not enabled, then separations must be created in your graphic design software. The following sections provide specific procedures for creating and printing separations. The controls described in the following sections can vary between software versions, and it may be necessary to consult the help file for your graphic design application.

### SEPARATIONS IN PHOTOSHOP®

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**Note:** The following procedure is valid for any of the PhotoShop CS series.

---

For PhotoShop, the **Send to FilmMaker** shortcut is a quick means of sending separations to FilmMaker without configuring the **File** menu >> **Print** dialog. The given job will be received in FilmMaker as a set of print-ready separations, per the queue properties.

#### Installing the Send to FilmMaker Shortcut

If PhotoShop is present when FilmMaker is installed, then a **File** menu >> **Automate** >> **Send to FilmMaker** shortcut will be added to PhotoShop. This shortcut will allow you to quickly send jobs directly to any production queue that has been configured in FilmMaker.

If PhotoShop is installed after FilmMaker, then the **Send to FilmMaker** shortcut can be installed by re-starting the FilmMaker install. An option will be provided to install only the shortcut, rather than the entire FilmMaker package.

1. Verify that the PhotoShop design is in either CMYK Color mode (for CMYK separations), or Multichannel mode (for CMY separations).  
From the **Image** menu, choose from the **Mode** flyout.
2. Use the **Channels** palette to control which separations to print.  
The **Channels** palette is activated via **Windows** menu >> **Channels**. Click the eye icon beside each channel to show/hide its contents.
3. Choose **File** menu >> **Automate** >> **Send to FilmMaker**.
4. The **Send to FilmMaker** dialog will open, which is used to choose the queue that will receive the print job.
5. When the job is held within FilmMaker, the Visual Print Manager provides controls for inspecting the individual separations.

#### **SEPARATIONS IN CORELDRAW®**

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**Note:** The following procedure was written using CorelDraw X5. For other versions of CorelDraw, please refer to the CorelDraw help file.

---

1. From the **File** menu, choose **Print** to open the **Print** dialog.
2. From the **Printer** drop-list, choose the printer that was installed through FilmMaker.
3. The printer comment should indicate that it is a “FilmMaker,” “VPM” or “CADlink” type of print destination.
4. Click the **Color** tab.
5. Click the **Print separations** option. The **Separations** tab will now be available.
6. On the **Separations** tab, there are a checkboxes beside each color channel, which can be used to choose the separations that will be printed.
7. The **Use advanced settings** checkbox determines how halftones will be applied, as follows:
 

**Use advanced settings = ON (ticked)**  
(Recommended) This enables custom halftone settings that can be adjusted by clicking the **Advanced** button. Refer to the CorelDraw help file for an explanation of these controls.

**Use advanced settings = OFF (unchecked)**  
This will use the halftone settings that have been set within FilmMaker.
8. Once the **Print** dialog settings are ready, click the **Print** button to print the separations to FilmMaker.

#### **SEPARATIONS IN ILLUSTRATOR®**

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**Note:** The following procedure is valid for any of the Illustrator CS series.

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1. Before creating separations, verify that the design is in CMYK color mode.  
From the **File** menu, choose **Document Color Mode** >> **CMYK Color**.
2. From the **File** menu, choose **Print**.
3. The **Print** dialog will open.

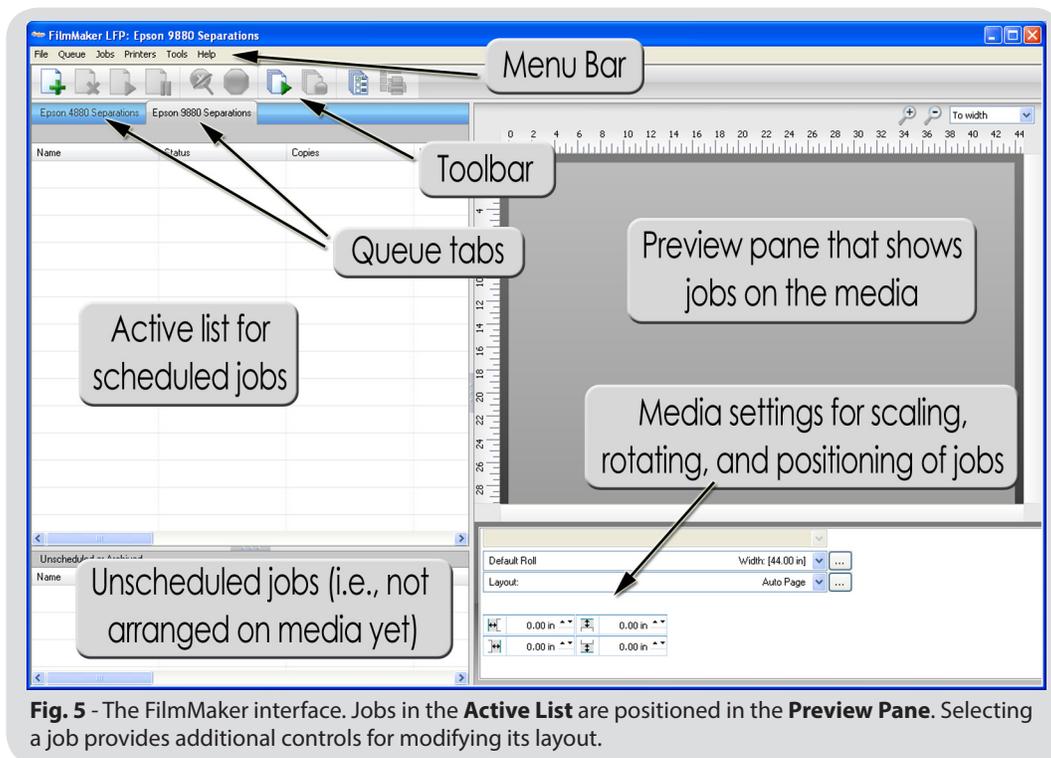
4. From the **Printer** drop-list, choose the printer that was installed through FilmMaker.
5. On the left-hand side of the **Print** dialog are several categories of controls.  
The categories are General, Setup, Marks and Bleeds, **Output**, Graphics, Color Management, Advanced, and Summary.
6. Click the **Output** category of controls.
7. Set the Mode, Emulsion, and Image according to your workflow.
8. Beside each color channel is a printer icon. Tick these icons to indicate the channels that should be printed as separations.
9. For each color channel, double-click to edit the halftone settings. Refer to the Illustrator help file for an explanation of these controls.
10. Click **Print** to print the separations to FilmMaker.

## OVERVIEW - FILMMAKER INTERFACE

### MAIN WINDOW

The main elements of the FilmMaker window (Fig. 5) are:

- A standard **Menu Bar** that provides the main FilmMaker controls.
- The **Queue** menu provides controls for adjusting FilmMaker parameters.
- The **Jobs** menu provides controls for adjusting selected print jobs.
- The **Devices** menu provides management for printers.
- The **Tools** menu provides access to advanced RIP settings.
- Below the **Menu Bar**, a **Toolbar** provides basic (**Start / Stop**) controls.
- Below the **Toolbar** are tabs for switching between queues.
- A list of received print jobs that are ready for printing.
- A list of previous jobs that have been archived for later reprinting.
- A **Preview Pane** (Visual Print Manager) that shows how jobs will be positioned on the media.
- A **Media Settings** pane that provides controls for scaling, rotating and positioning the selected job.



## QUEUE MENU

When print jobs are received by FilmMaker, they are added to the queue of active jobs. The **Queue** menu contains basic controls for starting, stopping, and scheduling of print jobs.

- Manage Queues** – Create a queue, or change the port or printer of an existing queue.
- Start** – Process jobs as they are received in queue. Scheduling settings apply to received jobs.
- Stop** – Hold all jobs in queue, regardless of Scheduling settings.
- Clear Job Errors** – Reset any errors that were reported, such as paper out.
- Ink Density Test Page** – Print targets to determine optimum ink density.
- Properties** – Open the Queue Properties dialog.

## JOBS MENU

The **Jobs** menu contains controls for printing, previewing and deleting print jobs.

- Restore jobs** – Manage archived print jobs.
- Select all** – Selects all jobs in queue.
- Select none** – Clear current selection.
- Remove** – Delete the selected job.
- Rename** – Change the job name.
- Open Page** – Discard the spool data, such that individual jobs can be scaled, rotated, etc.
- Locate Job** – Find the job in the Preview Pane.
- Release** – Release a held job.
- Hold** – Stop the job, regardless of whether queue is stopped.
- Abort** – Cancel the print job.
- Clear error** – Reset any errors that were reported, such as paper out.
- Add to Layout** – Move an unscheduled job into the active list, and show in Preview Pane.
- Print** – Send job to the printer.
- RIP Only (Preview)** – Spool the print data without sending to printer. Once spooled, the print data can be previewed.
- Generate Preview Image** – If thumbnails have been turned off, then create a preview.
- Properties** – Open the Job Properties dialog.

## DEVICES MENU

The **Devices** menu contains controls for managing printers, print modes, and page sizes.

- Manage Devices** – Open the Manage Devices dialog, which is used to add support files for new printers, and check for support file updates.
- Manage Print Modes** – Copy and edit print modes for a given printer.
- Manage Print Media** – Define media dimensions in terms of sheets, rolls, and templates.
- Printer Properties** – List printer settings.
- Print Test Page** – Choose target charts for testing the printer output.

## TOOLS MENU

From the **Tools** menu, choose **Options** to open the **Options** dialog. The available tabs are as follows:

- General** – Basic controls for customizing the FilmMaker interface.
- Storage and Archiving** – Indicates location of production and archive files.
- Processing** – Spool extra jobs whilst waiting for the current print job to finish.
- Preview Options** – Adjust the quality of thumbnail images that are used to represent jobs.

## WORKFLOWS - PRINTER SETUP

### GETTING THE LATEST UPDATES FOR YOUR PRINTER

To obtain the latest support files for your printer:

1. Ensure your Internet connection is active.
2. From the **Devices** menu, choose **Manage Devices**. The **Manage Devices** dialog will open.
3. Click the printer name that will be checked.
4. Click the **Check for online updates** button. If updated support files are available, then the **Update printers** button will become available.
5. Click the **Update printers** button to proceed with installing updates.

### SETTING THE PAGE SIZE

The page size is the size and margins of the loaded media, which will be used for positioning of jobs in the Visual Print Manager. The page size is set as follows:

1. From the **Queue** menu, choose **Properties**.
2. On the **Media Setup** tab, set the **Type** of media.
  - Roll media** - Preview jobs according to a specific roll width.
  - Fixed sheet media** - Preview jobs in terms of the sheet width and height.
3. From the **Name** drop-list, choose a preset media.

### CREATING A CUSTOM PAGE SIZE

In the following procedure, the **Printer Page Setup** dialog is used to create page sizes that can be selected in your design application.

1. Choose **Queue** menu >> **Manage Queues**.
2. Under the **Control Panel** column, click the **Install** button for the given printer.
3. Click **Close** to close the **Manage Queues** dialog.
4. From the **Tools** menu, choose **Options**.
5. On the **General Interface Settings** tab, set the display units in which page sizes will be defined.
6. Click **Save and Close** to close the **Options** dialog.
7. Select **Devices** menu >> **Manage Print Media**.
8. From the **Show media for** drop-list, choose the printer name.
9. The existing page sizes for the printer will be listed.
10. Click the **Add new print media** button.
11. From the **Create New Media** dialog, choose either **Roll** or **Sheet**.

12. Complete the parameters for the given media.

## SETTING THE LAYOUT AND SCHEDULING

The following sections contain brief summaries of layout and scheduling controls that affect how jobs are processed when received by FilmMaker.

### THE START QUEUE AND STOP QUEUE BUTTONS

These buttons are located within the main toolbar controls that are beneath the menus.

- Clicking the **Stop Queue** button will cause all jobs to be held, regardless of the scheduling settings within the queue properties.
- Clicking the **Start Queue** button means that all jobs will be processed according to the scheduling settings within the queue properties.

### SCHEDULING SETTINGS

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**Queue** menu >> **Properties** >> **Layout Manager** tab

---

When a job is received by FilmMaker, it can be either a) held, b) ripped to printer data and held, or c) ripped to printer data and output to the printer.

- Hold** - Do nothing with newly received jobs.
- RIP now, Print later** - Spool jobs when received, but don't output to printer.
- RIP and Print now** - Automatically spool jobs and output them. Output will not occur if the **Stop Queue** button has been clicked.

### LAYOUT JOBS AS THEY ARRIVE

---

**Queue** menu >> **Properties** >> **Layout Manager** tab

---

When jobs are received, the default behavior is that they are "scheduled" (i.e., put in the active list, and positioned in the Visual Print Manager). However, this behavior is toggled per the "**Layout jobs on page as they arrive**" checkbox.

- ON** = incoming jobs are placed in the active list and Visual Print Manager
- OFF** = place jobs in the unscheduled list

### LAYOUT MODE

The Layout Mode controls define how jobs are nested (i.e., collected and repositioned to conserve media) in the Visual Print Manager. When the collected jobs fill an entire sheet (or roll), the page is closed and printing can begin. For jobs that are nested automatically, you can specify that printing begins when a certain portion of the media is full.

1. From the **Queues** menu, choose **Properties**.
2. On the **Media Setup** tab, set the **Type** to either **Roll media**, or **Fixed sheet media**.

3. On the **Layout Manager** tab, the **Layout mode** drop-list will now be available.
  - Manual** – Add jobs to Visual Print Manager without attempting to conserve media.
  - Auto Page** – Append a page break to each job as it is received.
  - Auto Nest** – Reposition newly received jobs to conserve media. When you are ready to print, right-click an empty portion of Visual Print Manager and choose **Print**.

---

**Note:** If jobs have not been nested (i.e., Manual or Auto Page), then the jobs can still be nested by right-clicking an empty portion of Visual Print Manager and choosing **Automatic Nesting >> Auto Nest All Content**.

---

#### **PAGE OVERLAY**

---

**Queue** menu >> **Properties** >> **Layout Manager** tab

---

If the “**Process multiple page jobs as overlay**” checkbox has been ticked, then the color layers within a job (i.e., CMYK and spot color layers) will remain “stacked,” as opposed to being nested as separate jobs.

#### **OUTPUT PORT**

1. From the **Queue** menu, choose **Manage Queues**.
2. The **Queue Manager** dialog will open.
3. For the given printer, the **Port** column indicates the output port.
4. To change the port, choose a port from the drop-list.
5. Click [...] to change the port settings.

Of the various port settings described in the following sections, the USB Port is recommended for output from FilmMaker. Other port methods are described in the electronic help file.

#### **USB PORT**

This is the recommended output port to use with FilmMaker.

A Universal Serial Bus (USB) port has the benefit of allowing new hardware to be added without configuration concerns or hardware conflicts. In addition, a USB device may be added without requiring the workstation to be restarted.

1. When the Epson printer is connected to the computer via its USB port, Windows will automatically detect the USB printer.
2. In FilmMaker, the USB port name for this printer should now be available.
3. From the **Queue** menu, choose **Manage Queues**.
4. The **Queue Manager** dialog will open.

5. From the **Port** column drop-list, choose the USB port that is named specifically for your Epson model.

Example: For the Epson 4800, the USB port will be listed as "EpsonStylus Pro 4800\_USB00X+port name."

---

**Note:** Depending upon advanced settings within FilmMaker, it is possible that there is a secondary "USB00X" port (or "LPTUSB1" in the case of Belkin Adapters) that is available. Do not choose either of these secondary ports, unless requested to do so by Tech Support.

---

#### **FILE PORT FOR TIFF OUTPUT**

FilmMaker can be configured to output TIFF files instead of spooling printer data. This is typically done when either a printer driver is not available, or the printer is explicitly designed to receive TIFF files.

1. Choose **Devices** menu >> **Manage Devices**.
2. Click the **Add Printer** button.
3. The **Printer and Queue Setup Wizard** will launch.
4. When prompted to choose a printer, browse the list for available "TIFF" printer drivers. Examples of possible printer names are:
  - TIFF Output 1200dpi (typically DTP output)
  - TIFF Output 2400dpi (DTP+)
  - TIFF Output 3600dpi (XL+)
  - TIFF Output 4800dpi (LFP+)

---

**Note:** The numeric values indicate the maximum resolution that the "TIFF" printer driver supports. To choose a resolution that is less than this maximum, refer to the **Printer Options** tab of the **Queue Properties** dialog.

---

5. After choosing the TIFF printer driver, proceed with the remainder of the wizard.

---

**Note:** The TIFF printer drivers will automatically separate a composite job into CMYK channels.

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## WORKFLOWS - MANAGING PRINT JOBS

### SENDING A PRINT JOB

Printing to FilmMaker is like printing to a desktop printer. For example, suppose that your Windows application uses the standard **Print** dialog.

1. From the Windows application **File** menu, choose **Print**.
2. The **Print** dialog will open.
3. Choose the name of your printer from the drop-list.
4. The printer description should indicate that it is a “FilmMaker” type of print destination, which indicates that print jobs will be processed through FilmMaker.
5. If the printer description does not indicate “FilmMaker,” then search for another printer name from the drop-list.
6. Click **OK** to send the print job.

### STARTING AND STOPPING PRINT JOBS

When print jobs are received by FilmMaker, they can be either printed immediately, or they can be collected for later printing. The main controls for controlling print jobs are the **Start Queue** and **Stop Queue** buttons (available from the FilmMaker toolbar). The **Start Queue** and **Stop Queue** commands are also available under the **Queue** menu.

If the **Start Queue** button has been clicked, then print jobs will be printed immediately. If the **Stop Queue** button has been clicked, then print jobs will be held until manually released.

A held job can be printed by right-clicking the job and choosing **Print** from the context-menu. Alternatively, select the job and choose **Print** from the **Jobs** menu.

In addition to the **Start Queue** and **Stop Queue** buttons, the scheduling settings also control whether a job is printed or held. The scheduling controls are set via **Queue** menu >> **Properties** >> **Layout Manager** tab.

### PRINTING TO A HOT FOLDER

The Hot Folder is simply a directory on the workstation hard drive that will be monitored for new print (i.e., PostScript) files. If any print files are placed in the directory, then these will be added to the queue as new print jobs.

Typically, the Hot Folder is used by other graphic designers on your computer network. They will copy their jobs into the Hot Folder, and your workstation queue will then be able to process those jobs. However, please note that other graphic designers will need the appropriate file access permission (as granted by your network administrator) to copy files into the hot folder.

In FilmMaker, a hot folder is designated as follows:

1. From the **Queue** menu, choose **Properties**.
2. On the **Queue Properties** dialog, click the **Hot Folders** tab.
3. Tick the **Enable queue hot folder** checkbox.
4. A browse dialog will open.

5. Choose a directory and click **OK**.

When a PostScript job is placed within the hot folder, FilmMaker will use print mode settings that are contained within the PostScript file. If the print mode settings are missing or incomplete, then the Queue Properties will be used to complete missing settings.

### PREVIEWING PRINT DATA

Print data can be examined on-screen prior to printing. This is typically done in order to confirm the print data that is available in each color channel.

For example, suppose that a grayscale image needs to be printed, and the expectation is that only the black (K) channel will receive print data. This can be confirmed in the following manner:

1. Click the **Stop Queue** button to pause the grayscale-only print job in the queue.
2. Right-click the job and choose **RIP Only**.
3. When the job has finished spooling, its **Status** will indicate “**Holding [Job spooled]**”
4. Right-click the job and choose **View RAW data**.
5. Click the **Plane Select** button. Each of the color channel checkboxes will be checked.
6. Clear the **Black** checkbox.
7. The preview should now be blank because the CMY channels are not being sent data for a grayscale-only job.

---

**Note:** Colors appear differently on monitors than they appear when printed. As a result, the **View Raw Data** feature will not show colors on the screen exactly as they will appear when printed.

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**Note:** A monitor display is not capable of previewing variable dot output because a monitor display contains only one size of pixel on-screen. Further, the limited number of monitor pixels may cause the preview to appear faded, though this fading will not be present in the actual print.

---

### JOB RESERVE TAB AND ARCHIVING

From the main FilmMaker window, the Reserve List is a short list for your frequently printed jobs. Sending a print job involves compiling a PostScript file into a spool file, and then the spool file is sent to the printer. When a job has been completed, it can be added to the Reserve List as a PostScript and (optionally) spool file for reuse.

- Enable job reserve** (Fig. 6) - When a job has completed printing, its PostScript file will be added to the Reserve List.
- Save spool file on job reserve** - Enabling this option will cause the compiled spool file to be reserved (i.e., avoid spending time compiling the PostScript into a spool file).

---

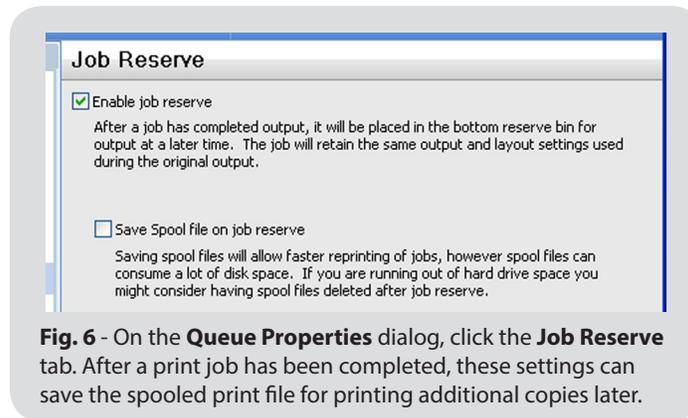
**Note:** Where the spool file has been archived, re-sending the job does not require the time that was spent compiling the spool file (potentially several minutes, depending on the workstation and the complexity of the print).

---

---

**Note:** A spool file requires comparatively much more hard drive space than the corresponding PostScript file.

---



**Fig. 6** - On the **Queue Properties** dialog, click the **Job Reserve** tab. After a print job has been completed, these settings can save the spooled print file for printing additional copies later.

### Archiving Jobs for Future Reuse

In addition to reserving jobs for later use, jobs can be archived as a combined JBK file that contains both the job and log data, such that the JBK can be safely stored (i.e., backups) and then restored at a later date. Restoring jobs in this fashion eliminates time spent re-spooling a file, and avoids any “guess work” related to the job settings, etc. Archiving also preserves the log and notes related to the job, such that job specifics can be referenced.

### Setting the Archive Location

The archive location is the directory where archived jobs will be stored. This needs to be a location that can be accessed later to restore the given job.

1. Go **Tools** menu >> **Options** >> **Storage and Archiving** tab
2. Near the bottom of the tab, the location for job archiving is indicated.
3. To change the archive location, click the ellipsis button.

### Archiving a Job

To archive a job, the job must be in either the **Active List** or **Reserved List**.

1. Select the job and then choose **Jobs** menu >> **Archive to disk**.
2. The archived job will appear as a JBK file in the archive location.

### Loading an Archived Job

Loaded jobs will be placed in the active queue.

1. Click the queue tab to make it active.
2. Go **Jobs** menu >> **Restore Jobs**.
3. The **Restore Job Tickets** dialog will list the available archives.
4. Select the desired archive and click the **Restore Archive** button.

## WORKFLOWS - ADVANCED RIP SETTINGS

### RIP MEMORY ALLOCATION

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**Tools** menu >> **Options** >> **RIP** tab

---

A large job size with high resolution can require considerable memory resources to process and print the job. A possible solution is to evaluate whether a lower print resolution is appropriate for the job. Alternatively, the RIP memory allocation can be increased (within bounds of the physical computer memory).

### RIP SYSTEM PRIORITY

---

**Tools** menu >> **Options** >> **RIP** tab

---

When a software application is launched, the operating system (i.e., Windows) assigns a priority level that regulates the amount of time shared amongst different applications. Normally, processes are assigned equal priority levels, but modifying the priority of individual processes is acceptable when this improves the overall performance.

If the RIP System Priority is increased, then print jobs will be processed faster, though this will cause all other software applications to run slower. Other applications will simply require more time in order to complete their operations.

Conversely, if the RIP System Priority is decreased, then print jobs will require more time to complete.

### CONCURRENT RIPPING

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**Tools** menu >> **Options** >> **Processing** tab

---

Though FilmMaker can compile a PostScript file into a spool file quickly, there is still time required to send the spool data to the printer (say over a network). In addition, the printer has a physical limit with respect to how quickly ink can be laid upon the media.

Instead of waiting idle for a spool file to be completely received by the printer, the queue can begin creating spool files for subsequent print jobs concurrently. However, please note that only one spool file is being compiled at any given time. The Maximum number of concurrent jobs limits the number of spool files that can be compiled in advance of the job that is currently being spooled.

### RESOLUTION

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**Note:** This is an advanced feature that is hidden per **Tools** menu >> **Options** >> **General** tab >> **Show advanced settings**.

---

**Queue** menu >> **Properties** >> **Printer Options** tab

---

By default, advanced **Queue Property** dialog settings are hidden, so that new users are presented with a streamlined interface that is easier to understand. Though Resolution is set for a queue during the **Printer and Queue Setup Wizard**, this setting is otherwise unavailable, unless the advanced settings are enabled.

### PERFORMANCE

---

**Note:** This is an advanced feature that is hidden per **Tools** menu >> **Options** >> **General** tab >> **Show advanced settings**.

---

**Queue** menu >> **Properties** >> **Performance** tab

---

For most cases, the **Resolution Reduction** slider should be **OFF**. The Resolution Reduction slider is used to reduce the resolution of the data being spooled, thereby reducing the size of the required spool data.

For text and line art, it is likely that half of the resolution data can be discarded without impacting the

appearance of the printed output. However, avoid reducing the resolution with images (i.e., gradients that utilize halftones), since the quality can deteriorate quickly.

If the **Intelligent Resolution Reduction** checkbox is ticked, then the **Resolution Reduction** feature will be applied automatically using a sophisticated set of criteria.

## IN-RIP SEPARATIONS

---

**Note:** This is an advanced feature that is hidden per **Tools** menu >> **Options** >> **General** tab >> **Show advanced settings.**

---

**Queue** menu >> **Properties** >> **Calibration Control** tab

---

In-RIP Separations are enabled by default when a new queue is created. However, FilmMaker will only create separations for jobs that have not already been prepared as separations.

Whereas it is often the case that your graphic design software can create separations, In-RIP Separations will cause the FilmMaker RIP to automatically generate separations for the CMYK planes, plus any spot colors that are present.

Primarily, the advantage of In-RIP Separations is that separations can be generated from (say) a PDF file, rather than needing graphic design software to generate the separations for you. In addition, you can specify the halftone for each separation.

Note that In-RIP Separations have two Curve Set options that are used when your workflow involves twin parallel printing processes. This allows you to adjust the ink levels of each process independently.

- Calibration** - Adjust this set of curves for your prepress proofing, or for printing the customer proof that will be used for approval before entering full production.
- Press Calibration** - Adjust this set of curves for your main print production run.

## JITTER

---

**Queue** menu >> **Properties** >> **Halftones** tab >> **Jitter** button

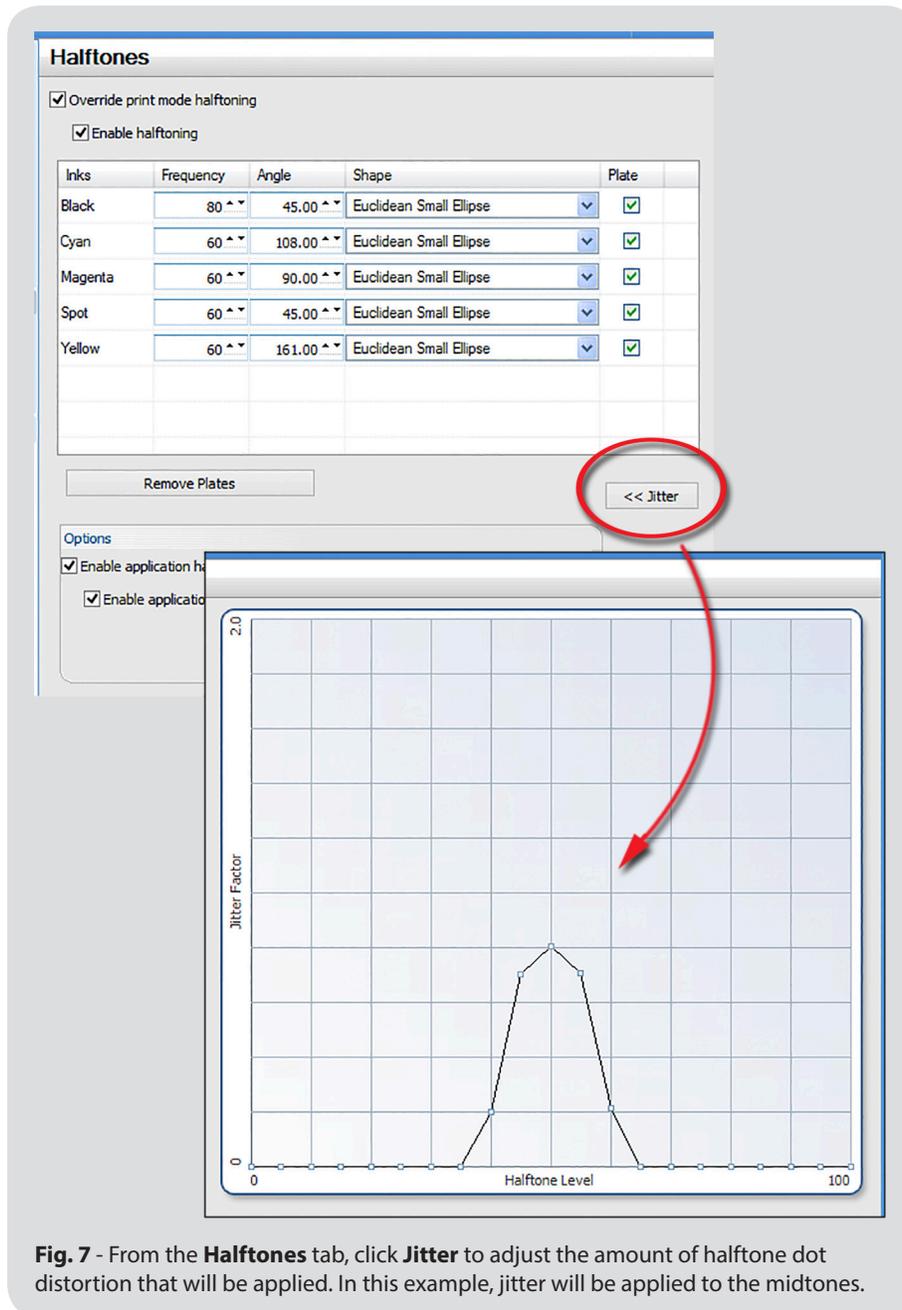
---

For the dots within a halftone pattern, the **Jitter** feature introduces minuscule distortion to the dot shape, such that an overall pattern within the dots is less discernible.

For example, considering a circular halftone dot at a particular tint percentage, close inspection of the halftone would normally show a regular pattern of small circles. By enabling the **Jitter** feature, each circular dot would be slightly distorted (e.g., one circle with a slight bulge on a side, another circle with slight depression on another side).

- Halftone Level** - This refers to the increasing size of a halftone cell, from an empty cell (0% tint) to a completely filled in cell (100% tint).
- Jitter Factor** - This is the amount of randomness that should be applied within a given range of the Halftone Level.

By default, there is zero jitter for all tint percentages, as indicated by the flat horizontal line. However, if you observe that your prints have a discernible pattern within (say) the midtones (10-90%), then you can increase the jitter for that range and perform a test print to observe improvements (Fig. 7). Jitter can also be used in the highlight (0-10%) or shadow (90-100%) regions to help retain detail.



**Fig. 7** - From the **Halftones** tab, click **Jitter** to adjust the amount of halftone dot distortion that will be applied. In this example, jitter will be applied to the midtones.

## APPENDIX A - PRINTER NOTES

### PAPER CHECKS

When working with clear film, it can be helpful to disable the paper sensor within the printer, since the sensor will not typically detect the clear film consistently.

Please refer to your operator manual for how to turn off the paper checks. As an example, the paper checks can be turned off for the Epson 4800 and 4400, as follows:

1. On the printer control panel, press the menu button to access **Printer Setup** on the display.
2. Press the menu button again, and then use the down arrow to locate each of the following and set them to **OFF**.

PPR SIZE CHK

PPR ALIGN CHK

SHEET SIZE CHK

### ALTERNATIVE INK CHANNELS

Not all printers are capable of printing black from an alternative channel effectively. For example, the Epson 1100 has CMY print heads that are much smaller than K, which would cause slow printing that would not typically be appropriate for a production environment.

### EPSON R1800

---

**Note:** For the Epson R1800, it is recommended that sheet feed media be used instead of rolls.

---

There are two main categories of print modes for the Epson R1800: Clear Film and Waterproof Film.

- Clear film is typically less expensive than waterproof film. However, clear film print modes are exceptionally slow because this media has low dot gain that requires more time to absorb ink. Further, the overall ink density of clear film will be lower than waterproof film.
- In comparison, “waterproof film” is literally waterproof, and it can absorb much more ink than clear film. Consequently, waterproof film can be used at lower (i.e., faster) resolutions and provide higher ink density.

### EPSON 4400, 7400, AND 9400

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**Note:** This section also applies for the 4450, 7450, and 9450 printers.

---

These print modes are designed for use with UltraChrome inks, and there are three categories: Color Modes, Halftone Color Proof, and Separations. All of these print modes are optimized for the best printing speed and ink density.

#### **FILMMAKERINKS**

The FilmMakerInks print modes are for printing separations to waterproof film (see comments under the *Epson R1800* section). Note that there are no density settings indicated in the print mode names, and that using the incorrect film will risk ink density issues (e.g., ink bleed).

Each print mode name indicates its resolution and the maximum lpi halftone. As with print mode resolutions for the Epson R1800, a higher resolution requires more printing time.

The FilmMakerInks print modes use variable dot halftones to provide faster printing and higher lpi halftones than is possible at lower resolutions. However, to use these print modes, the printer must be configured with 4xFilmMakerInks cartridges, rather than light inks.

#### ***COLOR MODES***

These are full color print modes that use the CMYK cartridges. These print modes are provided for using the Epson as a high quality color printer, as opposed to typical color separation work. These print modes are appropriate for providing a customer proof.

#### ***HALFTONE COLOR PROOF***

Like the Color Modes collection, these are also full color print modes that use the CMYK cartridges. However, these print modes will provide a more visible halftone pattern that emulates the appearance of a screen print.

### **EPSON 4800, 7800 AND 9800**

---

**Note:** This section also applies for the 4880, 7880, and 9880 printers.

---

For each printer, there are three categories of print modes: FilmMakerInks, Color Modes, and Halftone Color Proof (see comments from the **Epson 4400, 7400, and 9400** section). All of these print modes are optimized for the best printing speed and ink density.

### **ROLAND VP540 RSS**

These print modes are designed for Agfa SelectJet media, and there are currently no color print modes available. All of these print modes are optimized for the best printing speed and ink density.

## APPENDIX B - PRINT MODES

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**Note:** In most cases, installing printer support files will include predefined queue information, such that there is no need to choose a print mode. However, the following information is provided for those that wish to understand both how print modes were previously used, and their naming conventions.

---

Print modes contain all of the printer configuration settings (resolution, printer options, ink levels, etc.) that are used with a given job. A broad selection of print modes are provided with FilmMaker for commonly used media and ink.

When using the **Printer and Queue Setup Wizard**, you are indirectly prompted to choose a print mode on the **Printer Configuration** page, where the **Resolution** and **Ink Setup** are chosen. Your choices within the wizard are intended to be simpler means than setting the **Print Mode** via **Queue** menu >> **Properties** >> **General** tab.

Print modes are differentiated by their names, where the name of each print mode indicates its resolution, density and (print) direction.

### RESOLUTION

The print mode resolution has the most dramatic effect upon print quality and speed. Higher resolution settings produce smoother gradients, though at a cost of longer output time.

Print modes are mainly distinguished according to their print resolutions (2880, 1440, and 720 dpi), as follows:



- **[Slowest, Highest Quality]** The 2880 modes are the highest resolution, which will obtain the greatest quality (clean dots and ink density) with your finest meshes. These modes support the highest mesh counts and should be good up to 140 lpi halftones.
- **[Fast, Excellent Quality]** The 1440 modes provide a reasonable compromise between speed and quality. The 1440 modes are faster than 2880 modes, whilst still providing clean dots and good ink density. These modes support up to about 100-120 lpi halftones.
- **[Fastest, Reasonable Quality]** The 720 modes provide the absolute fastest production times. However, though the ink density will be acceptable, the output quality will be less than optimum. These modes are acceptable for fabric printing (e.g., T-shirt printing), with support for up to 80 lpi halftones.

## DENSITY

The density is expressed as a short code that indicates the relative volume of ink when compared to an equivalent print mode. For example, if two print modes have the same name, except that one is “SD” (Single Density) and the other is “DD” (Double Density), then the latter print mode will apply more ink.

SD - Single Density

DD - Double Density

TD - Triple Density

MD - Maximum Density

There is no simple formula that indicates the precise difference between density settings. The general rule is that SD has the least ink volume, DD is greater than SD, and so on:

$$SD < DD < TD < MD$$

The choice of ink density depends upon the job in question and the working environment (e.g., humidity, film storage conditions). Note that increasing the amount of ink will also increase the drying time, so an adequate system for drying film is required.

## DIRECTION (SPEED)

The direction indicates whether the print head will lay down ink in a single direction (Uni-directional), or in both directions (Bi-directional). Printing bi-directionally will typically require half the time of uni-directional, though can risk printing issues, such as banding or over inking.

Due to the reduced printing time when printing bi-directionally, the direction is often interpreted as a measure of the print mode speed.

HS - High Speed (bi-directional printing)

If the “HS” code is absent, then the print mode is assumed to be uni-directional.

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