Kodak

i9600 Application Software

User's Guide

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1 Introduction

About this guide

The *Kodak* i9600 Application Software provides a high-level interface to the *Kodak* i9600 Series Writers and *Kodak Imagelink* Document Archive Writer 4800. It also provides a set of functions for administrative tasks involved in using the software.

The *Kodak* i9600 Application Software provides menu options and toolbar buttons to help you use the software. In most cases, toolbar buttons are provided to do the same function as a menu option. For the purpose of this manual, procedures are provided using the menu options. If using the toolbar buttons is easier for you, click the toolbar button to perform the action instead of selecting a menu option.

Organization

In addition to this chapter, this User's Guide is organized as follows:

Chapter 2, *Installing the Software:* Provides hardware and software system requirements, instructions for installing the application software and how to start and exit the software.

Chapter 3, *Using the Software:* Describes each window you can access from the Jobs and Media menu, including explanations of each field as well as procedures on how to run a job.

Chapter 4, *Administrative Functions*: Describes each window you can access from the Administration menu, including explanations of each field as well as procedures on how to set up Writers and job types. This chapter also provides information about system settings.

Chapter 5, *Troubleshooting:* Describes problems you may encounter while using the *Kodak* i9600 Application Software and provides a list of error codes.

Appendix A, *Input Methods*: Provides detailed information and examples regarding List files and Batch mode as well as information on how to create a List file.

Appendix B, *Using the Input Processor:* Provides information about the Input Processor and how to use it.

Appendix C, *Glossary:* Provides a listing of terms associated with the Writer and the application software.

Appendix D, *Grouping, Image Addresses and Image Marks.*

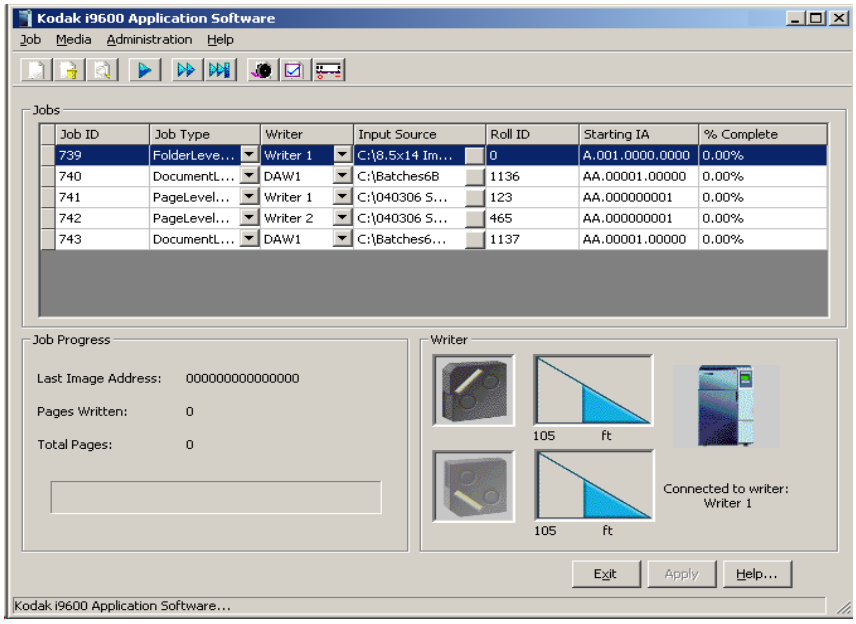
Appendix E, *Image File Specifications:* Details the specifications of the digital image files to be written to media.

Appendix F, *Archiving Non-TIFF Files:* Provides information about determining how non-TIFF files will be formatted for output and monitoring the progress of a non-TIFF archiving job.

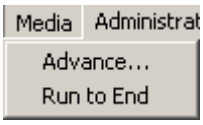
What is *Kodak* i9600 Application Software?

The *Kodak* i9600 Application Software is a Microsoft Windows application that provides a fully functional interface to the *Kodak* i9600 Series Writer and *Kodak Imagelink* Document Archive Writer 4800. This software and hardware allow the conversion of electronic images (TIFF/JPG/BMP) and data files (PDF-A/PDF, Microsoft Word, PowerPoint and text) to 16 mm microfilm for long-term archival.

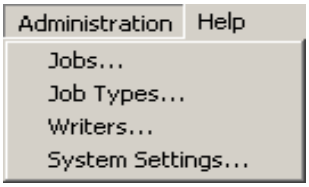
The *Kodak* i9600 Application Software main window provides access to the following menu options:



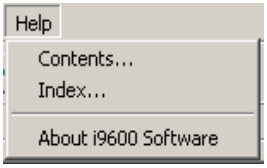
Job menu: Allows you to create or delete a job, run and stop jobs and view the current job settings. See Chapter 3, *Using the Software,* for more information.



Media menu: Allows you to specify an amount of media (in inches or meters) for the media to be advanced. See Chapter 3, *Using the Software,* for more information.



Administration menu: Use the Administration menu to set up a Writer and a new job type. You can also use the Job Type function to modify or delete existing job types. The System Settings function allows you to set or change system settings. See Chapter 4, *Administration Functions*, for more information.



Help menu: Provides on-line help for the *Kodak* i9600 Application Software. See Chapter 3, *Using the Software*, for more information.

What you need to know

Users of the i9600 Application Software must understand the Microsoft Windows operating system, including basic Windows terms and functions, and the basics of microfilm technology, and image addressing.

For Windows, you must understand the following concepts. If you are not familiar with these terms, it is recommended you use the manuals accompanying your Windows software.

Button	Icon
Click	Mouse
Close	Single-click
Dialog box	Pull-down menu
Double-click	Shift-click
Drop-down list	Single-click
Navigating through Help files	

New in Version 3

The following is new for *Kodak* i9600 Application Software, Version 3:

- Support for PDF/PDF-A file formats
- Support for Microsoft Word and PowerPoint file formats
- Support for JPG and BMP file formats
- Support for Windows Vista and WIndows 7

Support added — with Version 3 of the *Kodak* i9600 Application Software, inline support has been added to the above-mentioned non-TIFF formats allowing archival records to be sent directly to microfilm without manual conversion to a Writer-compatible TIFF file format before archival. Multi-bit files such as PDF and JPEG are converted to dithered black and white images.

Input Processor updated — the Input Processor utility has also been updated allowing you to pre-master your microfilm rolls to a TIFF file format before sending your records to microfilm.

Updated Installation Instructions — the archival of non-image file types (PDF-A/PDF/Microsoft Word/Microsoft PowerPoint) requires that the native host application be available from the host PC. Be sure to review the updated installation instructions in Chapter 2, *Installing the Software.*

Updated User's Guide information — several sections of this User's Guide have been updated with information about getting the best images from your non-TIFF files. Be sure to review the new Appendix F, *Archiving Non-TIFF Files.*

Getting technical support

Read this section before contacting Kodak for technical support.

The following information is needed when contacting Kodak technical support for the *Kodak* i9600 Application Software. This procedure is current as of the date of this guide, but it may change without notice as conditions require.

Response Center assistance is available as part of the Service Agreement. Refer to the Service Agreement Terms and Conditions for hours of availability.

Only a trained System Administrator should place the call to the Kodak Response Center. The following items will be requested:

- A K-number, located on the right side of the Writer, identifies the *Kodak* i9600 Series Writer.
- A brief description of the question or problem.
- A contact name and phone number where the contact/customer can be reached.

Phone numbers:

U.S. and Canada: 1-800-822-1414

International: 1-585-724-4675

The contact's name and phone number will be taken by a Response Center operator. A Response Center System Support Engineer will return the call.

The goal is to answer inquires on the first call. However, depending on the complexity of the question, it may be necessary to confer with other technical resources. Therefore, the inquiry may require follow-up contact.

2 Installing the Software

System requirements

The following minimum hardware and software requirements are required to run the *Kodak* i9600 Application Software.

NOTE: Each Writer requires a dedicated host PC.

Film Writer hardware

- *Kodak* i9610 and i9620 Archive Writer
- *Kodak Digital Science* Document Archive Writer 4800

PC hardware

Minimum PC Hardware Requirements:

Not recommended for archiving non-TIFF files.

- Single-core 850 MHz Pentium IV processor
- 512 MB RAM
- At least 80 Gigabytes (GB) hard drive or enough space to hold the desired number of image files. It is recommended that the hard drive is at least 2 ½ times the size of the largest job you are running.
- CD ROM drive
- Monitor, keyboard, mouse
- Ethernet adapter compatible with IEEE 802.3 Ethernet. 3Com EtherLink III has been tested and is recommended for interfacing with the Writer (only supports 10 mb)
- Cabling from PC to Writer (cross-over cable if directly connected)

NOTE: If using the Input Processor to transform your images (i.e., convert or rotate) a faster processor, RAM disk and more disk space is recommended.

Recommended PC Hardware Requirements:

Recommended for archiving or conversion of non-TIFF input files.

- Dual-core 2.0 GHz (or faster) processor
- 2 GB (or more) RAM
- At least 250 Gigabytes (GB) 7200 rpm hard drive or enough space to hold the desired number of image files. It is recommended that the hard drive is at least 2 ½ times the size of the largest job you are running.
- CD ROM drive
- Monitor, keyboard, mouse
- Ethernet adapter compatible with IEEE 802.3 Ethernet. 3Com EtherLink III has been tested and is recommended for interfacing with the Writer (only supports 10 mb)
- Cabling from PC to Writer (cross-over cable if directly connected)

NOTE: If using the Input Processor to transform your images (i.e., convert or rotate) a faster processor, RAM disk and more disk space is recommended.

Operating systems

Windows XP Professional and Windows Vista and Windows 7 (new with Version 3.x)

NOTES:

- Windows 2000 is no longer supported.
- Windows Vista and Windows 7 may require the operator's User ID to have "Power User" rights.

Optional host application software

The i9600 Application Software, Version 3 allows you to archive non-TIFF input files. This feature relies on a printer driver and the native host application for these files.

NOTE: To prevent an added licensing cost, these host applications are not included in the installation of the *Kodak* i9600 Application Software.

The following table details the required applications for each valid input file type.

Files to Archive	Host PC application required
TIFF (black and white)	included
JBIG	included
text	included
JPG files	included
BMP files	included
PDF files	Adobe Reader 8 or 9 (tested version); free download at www.adobe.com
Microsoft Word **Microsoft PowerPoint**	Microsoft Word/PowerPoint 2003 or 2007

NOTE: TIFF files with color or grayscale images are not supported.

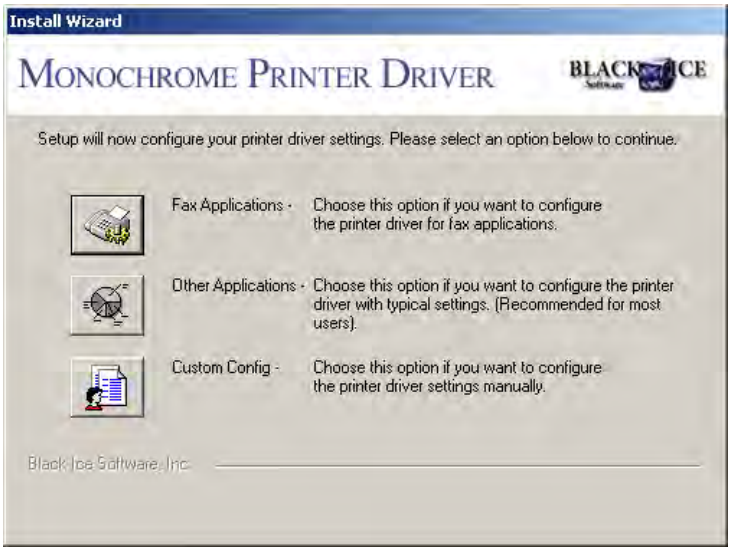
Installing the software

To install or upgrade from a previous version of the *Kodak* i9600 Application Software:

1. Insert the installation CD in the CD-ROM drive.
2. Follow the on-screen instructions to install the *Kodak* i9600 Application Software.

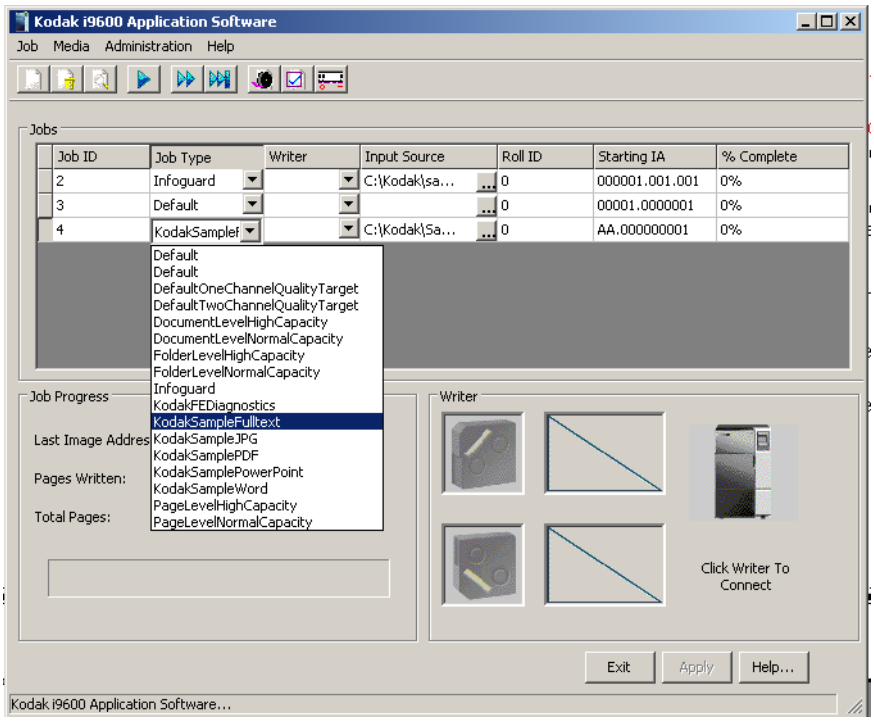
NOTES:

- During installation of the Black Ice Printer driver, the Install Wizard will ask you to configure your printer driver settings.



  - Select **Other Applications** (the option in the middle) when prompted by the Printer driver.

- For new installations sample job types will be created.



- For upgrade installations existing job types and Writer definitions will be retained.
- To manually create the non-TIFF sample jobs, create a new job type based on the “Default”.
  - For the input source, select one of the following:
    C:\Kodak\Samples\KodakSampleALL.txt
  - **C:\Kodak\Samples\KodakSamplePDF.txt**
  - **C:\Kodak\Samples\KodakSampleDOC.txt**
  - **C:\Kodak\Samples\KodakSamplePPT.txt**
  - **C:\Kodak\Samples\KodakSampleJPG.txt**
  - For the image address, set to **Page-Level Grouping** with Single-Level = **8**.

NOTE: Just installing the i9600 Application Software will not perform the setup necessary to allow the i9600 Writer or 4800 Digital Archive Writer to boot successfully. For installing on new or reformatted host computers, contact Kodak Service to assist in setting up the host FTP service and other settings.

Defining units of measure

You can change the units of measure from English to metric or metric to English.

1. Select **Start>Settings>Control Panel>Regional Options**. The Regional Options window is displayed.
2. Select the Numbers tab.
3. Change the Measurement system as desired and click **OK**.

IMPORTANT: If you have created job types and jobs and then change the units of measure, delete the previously created jobs and jobs types, otherwise you may have conflicting data in the database.

Starting the software

To start the *Kodak* i9600 Application Software or the Input Processor software:

Double-click on the *Kodak* i9600 Application Software icon on the desktop or from the Windows Start menu, select **Programs> Kodak>Kodak i9600 Application Software.**

Double-click on the *Kodak* i9600 Input Processor icon on the desktop or from the Windows Start menu, select **Programs>Kodak> Kodak i9600 Input Processor**.

Exiting the software

To exit the application software:

- Click the Close box in the upper right-hand corner of the *Kodak* i9600 Application Software window or the *Kodak* i9600 Application Software Input Processor, **or**
- Click the **Exit** button on the *Kodak* i9600 Application Software main window or the *Kodak* i9600 Application Software Input Processor.

3 Using the *Kodak* i9600 Application Software

This chapter provides an overview of the windows you can access when using the application software, as well as procedures for:

- Creating a new job
- Multi-roll processing
- Deleting jobs
- Viewing queued jobs
- Running and stopping jobs
- Viewing job settings
- Advancing media

See Chapter 4, *Administration Functions* for an overview of the Administration menu and procedures for setting up job types, defining a Writer and changing system settings.

Creating your Reference Archive — overview

A Reference Archive system accepts data and digital images from multiple host systems as digital document images. It renders these images as unalterable, archival, human-readable images, preserving the content and structure of the original record. The resulting analog record may be redigitized and served back to any system on-demand to provide immediate validation, permanent legal evidence and a foundation for deep disaster recovery.

The following steps provide a basic overview of what you need to do to write a job to film using the *Kodak* i9600 Series Writer and the *Kodak* i9600 Application Software.

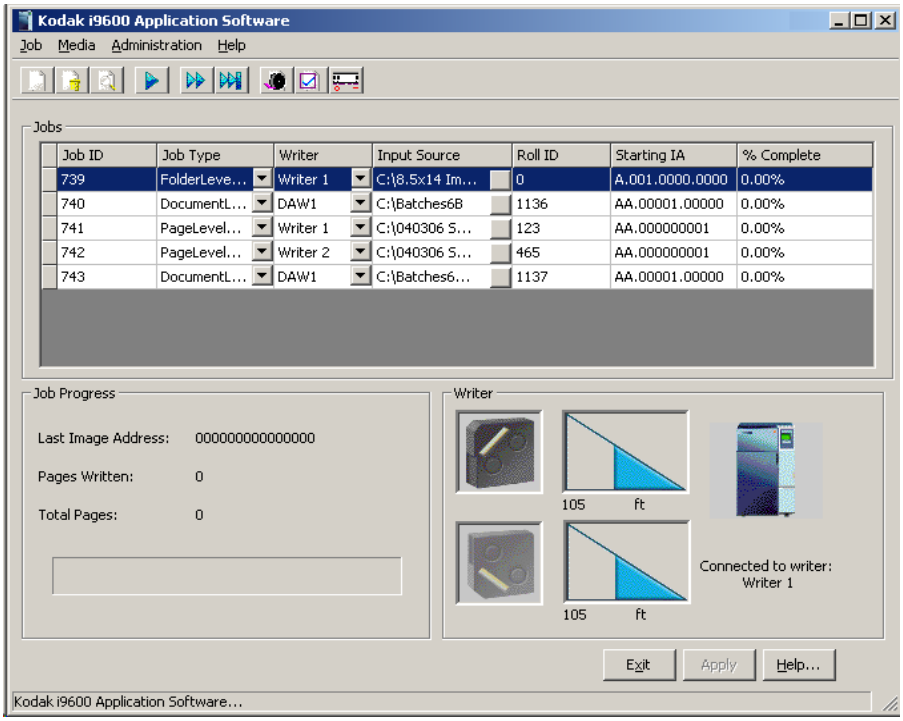
1. Gather the files that you want to be part of your Reference Archive (e.g., digitally-created documents/ scanned documents).
2. If necessary, convert the digital files to the Writer-compatible format. See Appendix E, *Image File Specifications*. Version 3 of the Kodak i9600 Application Software provides support for converting several file types. The Input Processor can also be used for converting these file types. (See Step 4)
3. If you are writing a new job to film, access the Job Types dialog box and setup the parameters of the new job. See the sections entitled, “Job Types dialog box” and “Creating and modifying a job type” in Chapter 4.
4. If desired, use the Input Processor to verify that your images are acceptable and reduce the possibility of errors during the writing process. If necessary, convert the input files to TIFF. This speeds up the writing process and helps to ensure an error-free archiving run. See Appendix B, *Using the Input Processor Software*.
5. Run the job. See the section entitled, “Running/stopping a job” in Chapter 3.

6. Process the film. 16 mm microfilm requires wet processing.
7. Verify the film quality to be sure all images are there and that the image quality is acceptable.
8. Mark the job as *Verified*. Optional, when the job has been successfully written to film, if you want you can delete the images after you have run and verified the job. See the section entitled, “Viewing jobs in the system” in Chapter 4.

To begin:

- Click the i9600 Application Software icon on the desktop or, from the Start menu, select **Programs>Kodak>Kodak i9600 Application Software**.

The *Kodak* i9600 Application Software window displays all open jobs and their status. This window provides a menu bar, toolbar, a Jobs window listing the jobs currently in the system, a Jobs Progress area and a Writer status area.



NOTE: If desired, you can resize the Main window by:

- clicking on the Resize button.
- placing the mouse cursor on one of the edges or corners of the window and dragging the edge or corner up, down or diagonally to the desired size,
- double-clicking on the Title bar

The menu bar provides the following options:

Job — allows you to create or delete a job, run and stop jobs, and view the current job settings.

Media — allows you to advance the media a specified amount or advance media to the end of the roll.

Administration — allows you to view the parameters associated with the selected Writer and job type, set up Writers and job types and provides access to the system settings.

Help — provides access to *Kodak* i9600 Application Software on-line help.

Toolbar

The toolbar buttons provide the following options:

	When selected, will add a new job line to the main window. This is where you will select and enter information regarding a new job you want to create.
	Deletes the selected job.
	When selected, displays a visual representation of the job settings for the selected job.
	Starts the selected job.
	Advances the media the amount of millimeters or inches that is set up on the Media Advance dialog box.
	When a job is running, the Start button is replaced with a Stop button. Click this button to Stop a job in progress.
	Runs the media to the end of the roll.
The following options are reset each time you launch the *Kodak* i9600 Application Software.	
	Auto End of Roll — when the job is finished, end of roll processing is automatically completed (usually writing trailer pages) and the message ***All images have been written. Do you want to write trailer pages?*** will ***not*** be displayed.
	Auto Job Complete — automatically completes the current job ***without*** displaying the message ***Do you want to mark this job complete?***
	Auto Add Film Trailer at Job Completion — automatically adds the film trailer to the roll when the job is finished (either completed manually or automatically) and after the auto end of roll.

Job menu

The Job menu contains the following options: New, Delete, View Job Settings and Run.

New — when selected, will add a new job line to the main window. This is where you will select and enter information regarding the new job you want to create, i.e., job type, input source, etc.

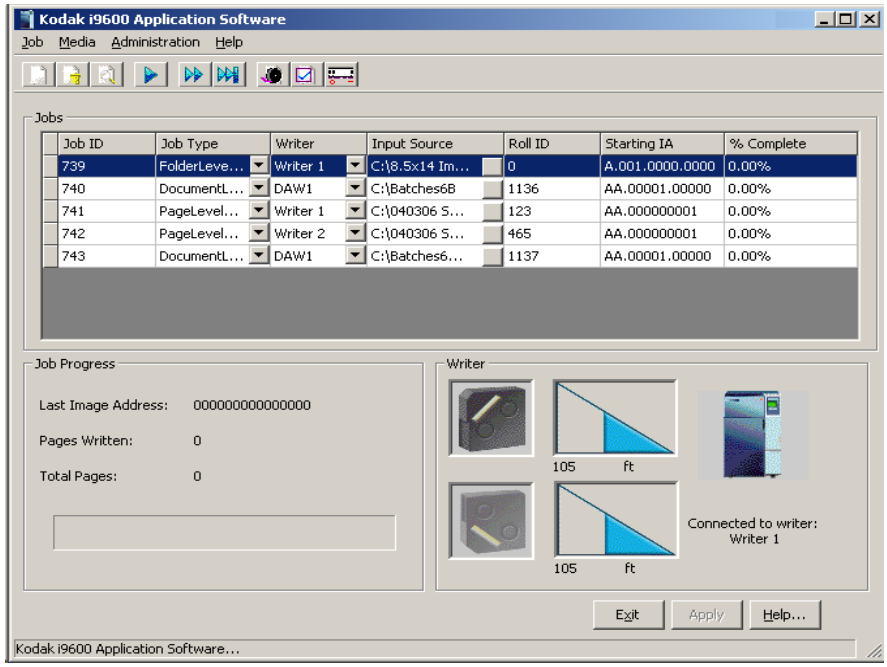
Delete — deletes the selected job. You can only delete one job at a time. Only jobs that have not yet been run can be deleted.

View Job Settings — when selected, displays a visual representation of the job settings for the selected job. This view can be used to see how the Input Processor should be set up to check files for this job type.

Run — starts the currently selected job.

Kodak i9600 Application Software main window

When you select **New** from the Job menu, the *Kodak* i9600 Application Software window is populated with job setup fields. Following are descriptions of the fields on this window.



Title bar and buttons

Displays the product name and window buttons. You can use the buttons at the top of the window to minimize or maximize the window. Click the Close button (X) to close the main window.

Jobs section

Job ID — this is a system-generated ID number which is incremented by 1 from the previously created job. You cannot change the Job ID.

Job Type — the drop-down list provides a listing of previously defined job types. Once a job type is selected, several fields are populated with the values associated with the selected job type.

Writer — the Writer associated with the selected job type will be displayed. If you want to select a different Writer, use the drop-down list to display the available Writers.

Input Source — enter a path (or browse) to a valid List file, Batch or Poll directory, if the one that was previously setup is not correct.

Roll ID — this field is populated with a value after a job type is selected. The value is the next available number for that job type based upon current records in the database. This value can be changed if desired, using any number (up to 8 digits). This field must contain a value.

Starting IA — this field is populated with the value from the job type you selected. This value can be changed if desired, but the value must comply with the parameters specified in the job type.

% Complete — displays the percentage of the job that has been written to media (not updated as the job is being run).

NOTES:

- Once the job is removed from the queue, you can go to the **Administration>Jobs** option and select **Rerun Job** to place the job back in the queue if it needs to be re-run.
- Jobs displayed in the Jobs section can be sorted in ascending/descending order by clicking on the column headings.

Job Progress section

Last Image Address — displays the image address of the last image processed.

Pages Written — displays the total number of pages written (each image).

Total Pages — displays total number of images for the selected job.

NOTE: The Progress meter at the bottom of the Job Progress section displays the status of the job that is currently running.

Writer section

Displays the amount of media remaining in the upper and lower cassette. This field is enabled upon a successful connection to the selected Writer. This is informational only and cannot be changed.

NOTE: You can click the Writer icon to connect the Writer prior to running a job, but it is not required.

Exit — exits the *Kodak* i9600 Application Software.

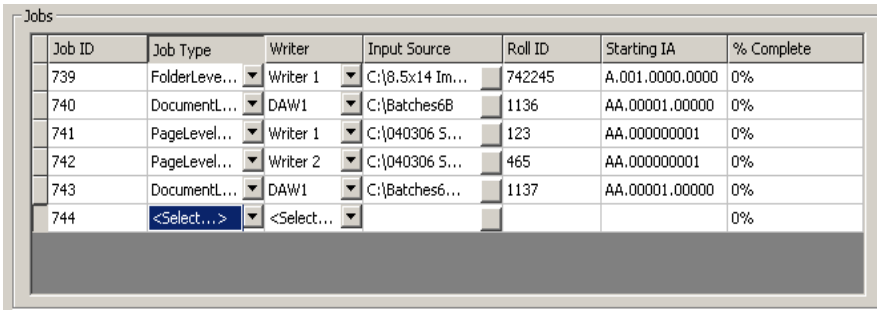
Apply — saves the changes you made on the *Kodak* i9600 Application Software main window.

Help — displays on-line help for the *Kodak* i9600 Application Software main window.

Creating a new job

Before you begin make sure the media cassette(s) have been loaded with film and inserted correctly into the Writer. For more information about media cassettes, refer to the User's Guide for the *Kodak* i9600 Series Writers, A-61058 or the *Kodak Digital Science* Document Archive Writer 4800, A-61038.

1. Click the i9600 Application Software icon on the desktop or, from the Start menu, select **Programs>Kodak>Kodak i9600 Application Software**.
2. Select **Job>New**. The main window will be populated with the job types currently in the system and a new job row will be added to the bottom of the list.



3. Select a Job Type from the drop-down list. The Writer associated with the job type you selected will be displayed. If you need to change the Writer, use the drop-down arrow to select the Writer you want.

   NOTE: If you have a long list of job types, you can locate the job type quickly by continuously pressing the first letter of the name of the job type until you find the job type you are looking for.

4. If the Input Source is not correct, enter the correct file path in the Input Source field.
5. If the Roll ID is not correct, enter the correct roll ID.
6. If desired, select one, two or all of the End of Roll/Job Completion/ Add Trailer toolbar buttons.

Auto End of Roll Processing — if selected, will automatically write trailer pages if any have been defined and the *End of Roll Processing* confirmation box will not be displayed.

Auto Job Complete — if selected, the *Finished Writing Images* dialog box will not be displayed and your job will be marked as complete and will be removed from the Main screen.

Auto Add Film Trailer at Job Completion — if selected, will spool 3feet of film after the job is complete.

NOTE: The **End of Roll/Job Completion/Add Trailer** toolbar button selection is reset to **Off** when the program is restarted.

7. Select **Job>Run**. The job will immediately start processing, unless the input method is Polling, then the application software will begin looking for Poll files.

   If you did not select the **Auto End Roll** button (in Step 6) and job type includes trailer images, you will get the following messages upon completion of processing, ***All images have been written. Do you want to write trailer pages?***

   If you did not select **Auto Job Complete**, you will be asked, ***Do you want to mark this job complete?***

Multi-roll processing

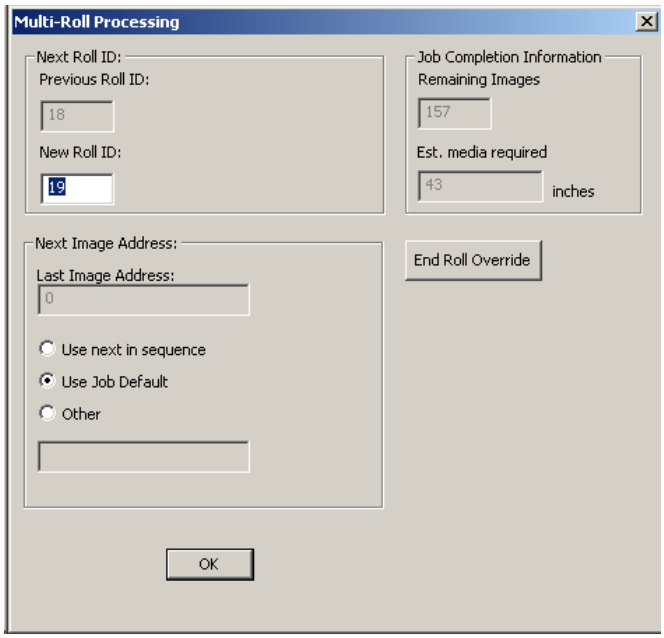
Multi-roll processing allows continuation of processing without having to setup and start another new job, and makes it unnecessary to batch images according to the capacity of a single roll.

The Multi-roll processing dialog box is automatically displayed when a single job contains more images than will fit on one roll of media and there is only 2 feet of media remaining on the roll.

NOTE: A 2-foot trailer is required at the end of a roll to facilitate successful retrievals, and the system does not allow splitting of documents across multiple rolls of media.

When the Multi-Roll processing dialog box is displayed:

1. Edit fields as necessary.
2. Click **OK** on the dialog box. A message box will be displayed prompting you to replace the roll of media.
3. Change the roll of media.
4. Click **OK**.



NOTE: If there is only 9 inches (16 mm) of media required to complete the job, select the **End of Roll Override** button. This will run more images.

Previous Roll ID — is informational only and shows the roll ID for the roll that was just finished.

Next Roll ID — can be changed if desired, but cannot be the same as any existing roll ID already associated with the current job type in the application's database.

Next Image Address:

Last Image Address — is informational only and shows the image address assigned to the last image on the roll that was just finished.

Select one of the following:

- **Use next in sequence:** the IA (image address) assignment will continue from the previous roll, based upon the input type and image addressing parameters in the job type, and the level of the first image. In the previous example, the starting IA could be FF.006.000.000 or FF.005.002.000, depending on the image level.
- **Use Job default:** the IA assignment will start with the value specified in the job type, e.g., FF.001.000.000.
- **Other**: the IA assignment will start with the value specified in this field. The value must comply with the parameters specified in the job type.

NOTE: The Transfer file for each subsequent roll will be created in the same directory as the Transfer file for the first roll.

Job Completion Information — displays the following:

- **Remaining Images**: displays the number of remaining images that still need to be written on film.
- **Est. media required**: displays the approximate number of inches (or centimeters) needed on the film to complete the job currently running.

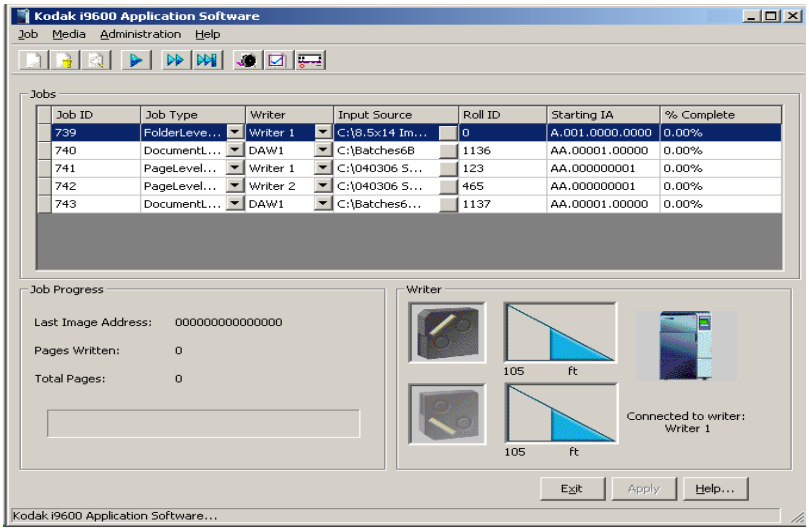
Run Media To End — select one of the following:

- **Run Media To End**: if this option is checked, the film remaining on the cassettes will automatically be run to the end after **OK** is selected. After clicking **OK**, you will be prompted to run the media to the end and reload the Writer will more media.
- **End Roll Override** — if this option is selected, the software will attempt to write additional images to film before forcing you to replace the media in the cassette. The number of images that may be written is variable. Only one End of Roll override is allowed. After clicking **End Roll Override**, you will be prompted to run the media to the end and reload the Writer with more media.

NOTE: Do not remove the film cassettes before clicking **OK** (Run Media to End) or clicking **End Roll Override**. If you do, the following message will be displayed: *Please run media to the end, replace the media cartridge and press OK to continue writing*.

Deleting a job from the queue

When you delete a job, you are deleting the job from the queue and the database.

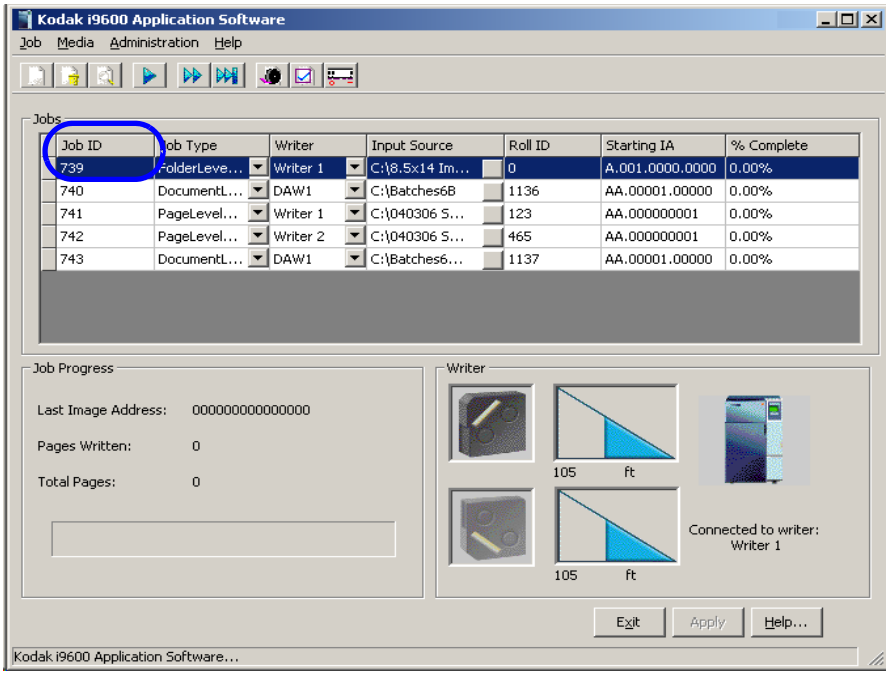


1. Click on the job ID associated with the job you want to delete from the Jobs list.
2. Select **Job>Delete**.
   - If the job is in progress, you cannot delete the job.
   - If the job is not in progress, you will be asked to confirm the deletion by clicking **OK** on the confirmation box.

Viewing job settings

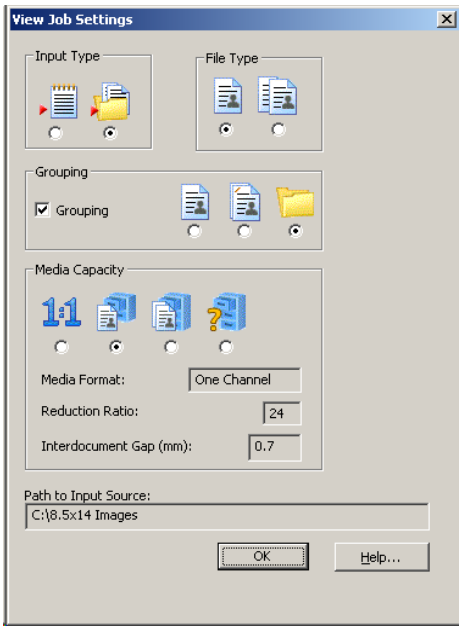
The View Job Settings option allows you to see the values set for a selected Job Type. These settings cannot be changed using this option. To view the settings of a job:

1. On the *Kodak* i9600 Application Software main window select the Job ID for which you want to view settings. Only one job can be selected at a time.



2. Select **Job>View Job Settings**. The View Job Settings window will be displayed. The icons displayed on this window represent the settings for:

   - Input (input method, input type, file type)
   - Output (grouping, media capacity)



3. Close the window when finished.

Running/stopping a job

You can only select and run one job at a time. To start a job:

1. Highlight the job you want to start from the Jobs list.

   NOTE: If you want to advance the media, select **Media>Advance** and enter the amount of media you want to advance in the dialog box. See the next section entitled, “Advancing the media” for more information about the Advance Media dialog box.

2. Select **Job>Run**. As the job begins to run, the # of Pages Written is continually updated and an arrow revolves around the Writer icon.

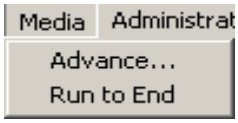
NOTE: With Version 3, the message “***Converting Documents. Please be patient...***” may be displayed while the software is preparing non-TIFF images for archiving. Depending on how many non-TIFF files you have in your job and the speed of your host computer, this message may be displayed for a few seconds or much longer (several hours). For more information, see Appendix F, *Archiving non-TIFF Files.*

Jobs that are currently running can be stopped. To stop a job:

1. Select **Job>Stop**. The message, ***Are you sure you want to stop this job?*** will be displayed.
2. When you click **Yes**, the job will stop.

Media menu

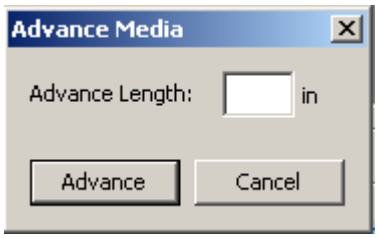
The Media option provides the functionality for advancing the media and running to the end of the media. The Media options will only be available after you select a job and connect to a Writer.



Advancing media

To advance the media:

1. Select **Media>Advance**. The Advance Media dialog box will be displayed.



2. Enter the desired length of media to advance between jobs (from 26 to 2515 millimeters / 1 to 99 inches). Alpha characters and decimals are not acceptable.
3. Click **Advance**.

NOTE: If the amount entered is more than the amount of media remaining, an error message will be displayed.

Run to end

When selected, will physically run the media completely on to the takeup spool.

To run to the end of the media:

1. Select **Media>Run to End**. The Writer media status will be set to 0 feet/meters when the Run to End has finished.

Help menu

Help... — the Help menu contains three options:

- **Contents and Index** — opens the Help dialog box to display the first page of the on-line help with Contents and Index tabs.
- **About** — displays a window containing software copyright and version information about the *Kodak* i9600 Application Software.

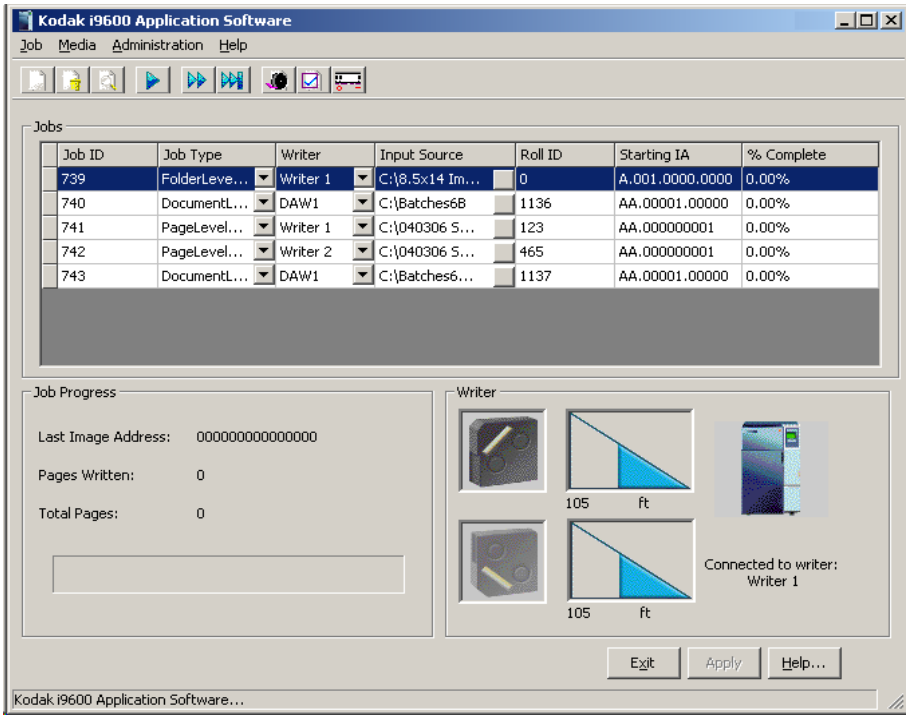
4 Administration Functions

This chapter provides an overview of the windows you will access when using *Kodak* i9600 Application Software, as well as procedures for setting up job types, defining a Writer, and changing system settings.

See Chapter 3, *Using the Software,* for an overview of the windows you can access when using the application software, as well as procedures for opening, deleting and running jobs.

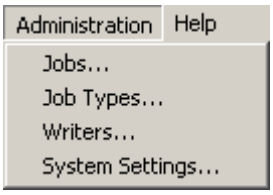
- Click the i9600 Application Software icon on the desktop or, from the Start menu, select **Programs>Kodak>Kodak i9600 Application Software**.

The *Kodak* i9600 Application Software window is displayed. This window displays all open jobs and their status.



Administration menu

The Administration menu contains the following options:



Jobs — displays the Jobs dialog box. This dialog box provides a listing of all jobs in the database referenced by the Job ID number. Use this dialog box to delete and verify jobs.

Job Types — displays the Job Types dialog box which allows you create, modify and delete job types.

Writers — displays the Writers dialog box which allows you to set up, modify and delete *Kodak* i9600 Series Writers.

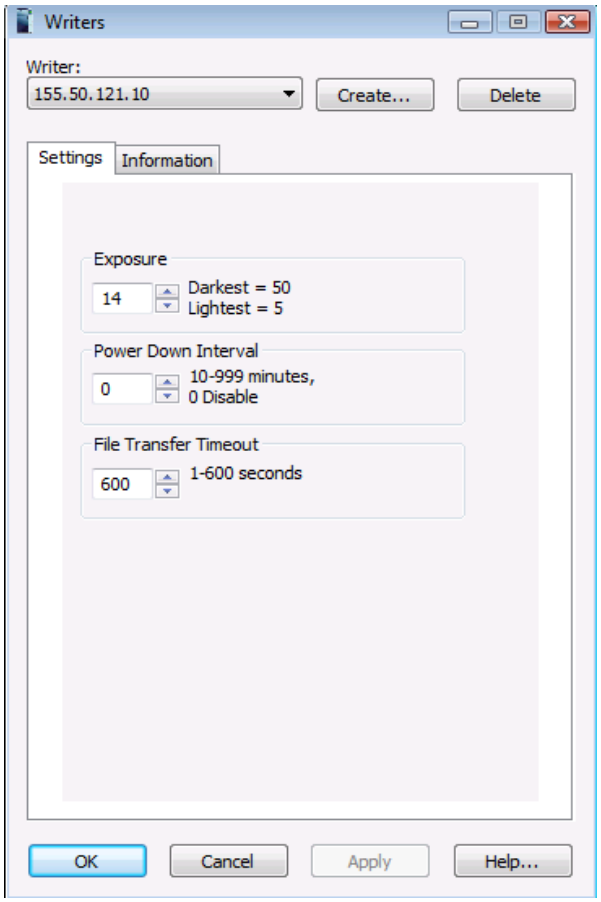
System Settings — displays the System Settings dialog box which allows you to set the Error Logging Level and Log File size and change Performance settings.

The Writer dialog box

Before setting up job types, you must set up a *Kodak* i9600 Series Writer. The Writers dialog box allows you to set up a new Writer, modify Writer values or delete an existing Writer.

To access the Writers dialog box:

- Select **Administration>Writers**. The Writers dialog box provides the following options:



Writer — provides a drop-down list of Writers currently set-up in the system.

Create — displays the Create Writer dialog box which allows you to set up a new Writer in the system. See the section entitled, “Setting up a Writer” later in this chapter for procedures.

Delete — allows you to delete an existing Writer from the system.

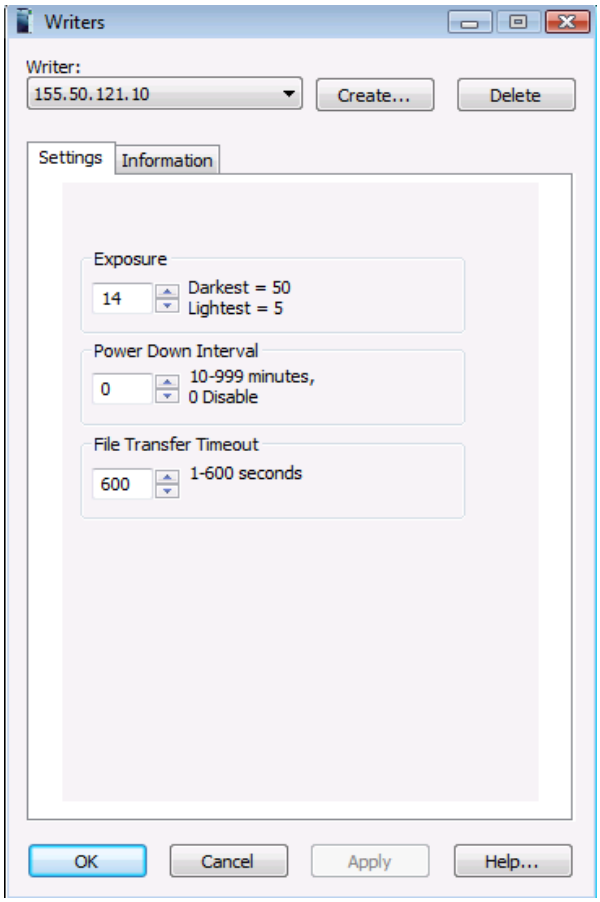
The following fields will contain a value only when a valid Writer is specified in the Writer field.

Settings tab

Exposure — enter/select an exposure value from 5 (lightest) to 50 (darkest) to lighten or darken the images on media. The default value is 18 for an i9600 Series Writer and 14 for a 4800 Writer.

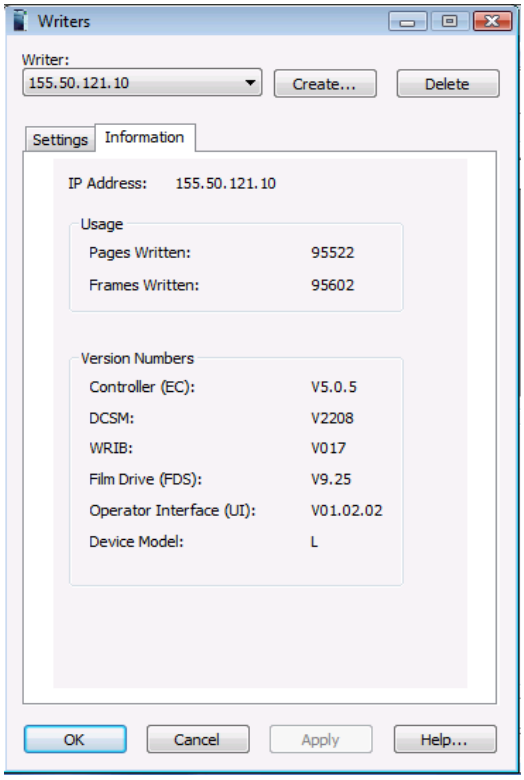
Power Down Interval — defines how many minutes must pass without activity before the Writer goes into power-saving mode. Value Range: 0 (disabled) and 10 to 999 minutes. The default value is 0.

File Transfer Timeout — enter/select the number of seconds (1 to 600) allowed for a file transfer between the application software and the Writer (any command file, image file, response file, status file). This value should be large enough to ensure the file transfer does not hang and there is adequate time for the transfer. The default is 60 seconds.



Information tab

The information on this tab is from the currently connected Writer. It is for viewing purposes only and cannot be changed.



IP Address — the static IP address of the selected Writer is displayed.

Usage — displays the total number of pages written (each image) and frames written to media since the application software was installed. A frame includes the images in the width of the media. For example, with one channel media, one image is across the width of the media, which is considered one frame. With two channel media, two images are across the width of the media, and is also considered as one frame. This feature is only available on the i9600 Writer.

Version Numbers — displays the current version information for the Controller, DCSM Version, WRIB version, Film Drive, and Operator Interface. This information is used when service is performed on the Writer.

Device Model — for 4800 Archive Writers:

- **S** — Small memory which indicates the largest TIFF file that can be archived (about 1.3 Mb).
- **L** — Large memory which indicates the memory in the Archive Writer has been upgraded to (8 Mb).

NOTE: It is always **L** (Large memory) for i9600 Writers.

Buttons on the Writers dialog box

OK — saves the values on the tabs and closes the window.

Cancel — closes the window without saving any changes.

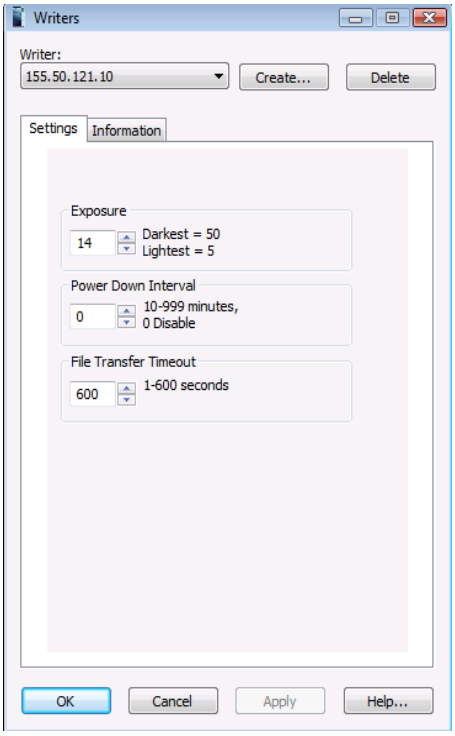
Apply — saves the values on the tabs, but does not close the window.

Help... — displays on-line help for the displayed window.

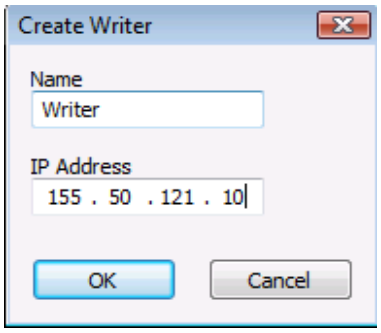
Setting up a Writer

To set up a Writer:

1. Select **Administration>Writers**. The Writers dialog box will be displayed:



2. Select **Create**. The Create Writer dialog box is displayed:



3. Enter a Writer name. The name can be a maximum of 64 characters, and include any keyboard character.
4. Enter the static IP address that was defined for the Writer during installation of the Writer. If you are not sure of the correct IP address, see your System Administrator.
5. Click **OK** to create and save the Writer. The Writer dialog box is redisplayed with current values obtained from the Writer.
6. If desired, select new Exposure, Power Down Interval, or File Transfer Timeout values.
7. Click **OK**.

Modifying a Writer

To modify a Writer:

1. Select **Administration>Writers**. The Writers dialog box will be displayed.
2. Select the Writer you want to modify from the Writer drop-down list.
3. Change the values on the Settings tab as desired.
4. Click **OK**.

Deleting a Writer

To delete a Writer:

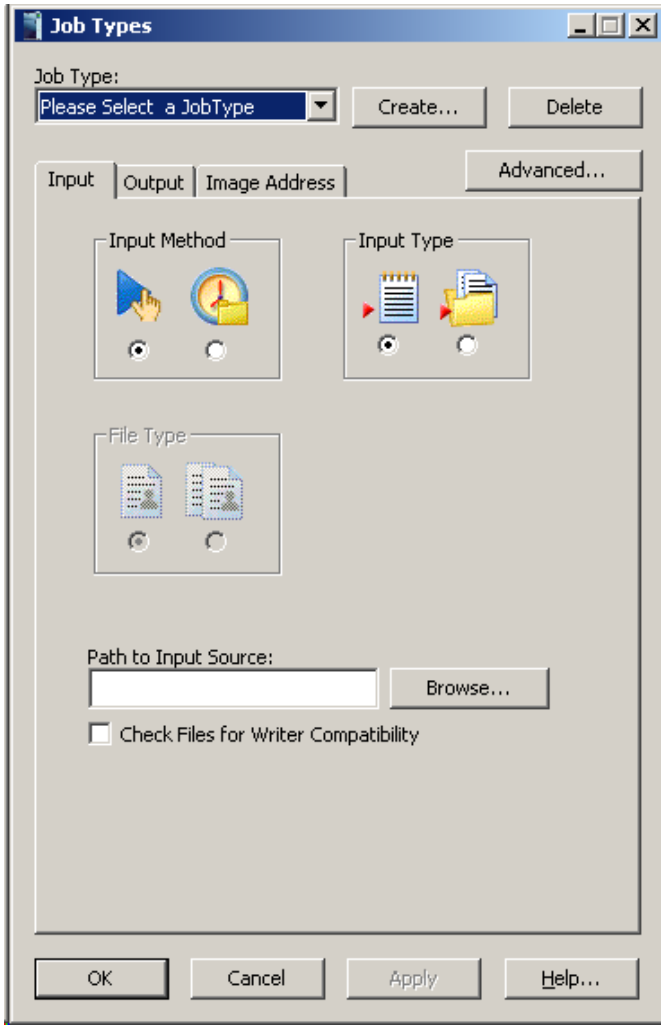
1. Select **Administration>Writers**. The Writers dialog box will be displayed.
2. Select the Writer you want to delete from the Writer drop-down list.
3. Click **Delete**. The message ***Are you sure you want to delete this Writer?*** will be displayed.
4. Click **Yes** on the confirmation box.
5. Click **OK**.

Job Types dialog box

A job type is a set of parameters that relates to how a collection of images will be written to media. The Job Types dialog box allows you to create, modify and delete job types. To access the Job Types dialog box:

- Select **Administration>Job Types**.

  The Job Types dialog box provides the following options:



Job Type — provides a drop-down list of existing job types currently set up in the system. Select an existing job type from the list or if you want to set up a new job type, click **Create** to display the Create Job Type dialog box. See the section entitled, “Creating and modifying a job type” later in this chapter for procedures. You must make an entry in this field. Once a job type is selected, several fields are populated with values from the job type template. Some default templates are provided with the application software.

Input tab

Input Method — select an input method:

Manual — allows you to submit either a List file or Batch directory to run at a specific time. If you select this option, you must select an Input Type.

Polling — poll files are sorted according to the ASCII file sorting algorithm and are processed automatically in that order. The directory is where the Poll files reside, not necessarily where the image files reside.

Input Type — select either List file or Batch.

List file: an ASCII text file that contains the full pathname to each image file that is to be written to media. The order in which the images are written is determined by the order in which the image file pathnames appear in the file.

Batch: the image files within each directory are sorted according to the Windows ASCII file sorting algorithm and written to media in that order.

For more information regarding input methods and input types, see Appendix A, *Input Methods*.

File Type — select the type of file you will be providing as input. These options are not available if **List file** is selected. Two file types are supported: Single and Multi.

Single: if your input file contains only one page, then it is a single-page input file.

- TIFF files may be single- or multi-page.
- BMP and JPG files are always single-page.
- Other non-TIFF files, such as PDF files, may be single- or multi-page.

Multi: if your input file contains more than one page, then it is a multi-page input file.

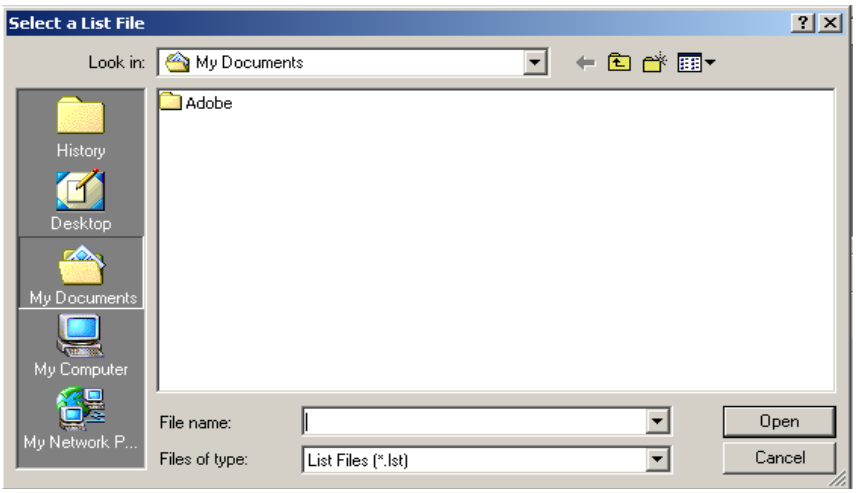
Path to Input Source — this field is populated with the selected job type parameters. You can edit this field if necessary.

Check Files for Writer Compatibility — enable this option if you want to validate images before sending a job to the Writer. If enabled, the software will:

- Check TIFF header tags for compatibility with the Writer.
- Check image sizes to ensure they will fit on the Writer.
- Alert you of any problems before writing images to the Writer.

Browse — when selected will display either the Select a List File window or the Browse for Folder window.

Select a List File window



Look in — select the drive where the desired file is located.

File Name — select the file name from the list box. Once selected, the file name appears in the File Name text box.

Files of type — allows you to filter the output of the display window based on file extension. You can select any ASCII text file that is a valid List file.

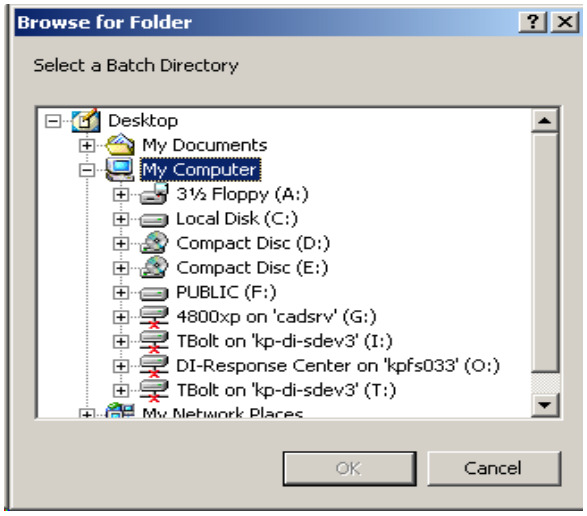
Open — click to accept the List file and close the Select a List File window.

Cancel — to ignore your selection and close the Select a List File window.

To select a file:

1. Select the desired Drive from the Look in list box.
2. Select the Files of type.
3. Select the desired List file.
4. Click **Open**.

Browse For Folder Window



Drive — select the drive where the desired directory is located.

OK — click to accept the Batch or Poll directory and close the Browse For Folder window.

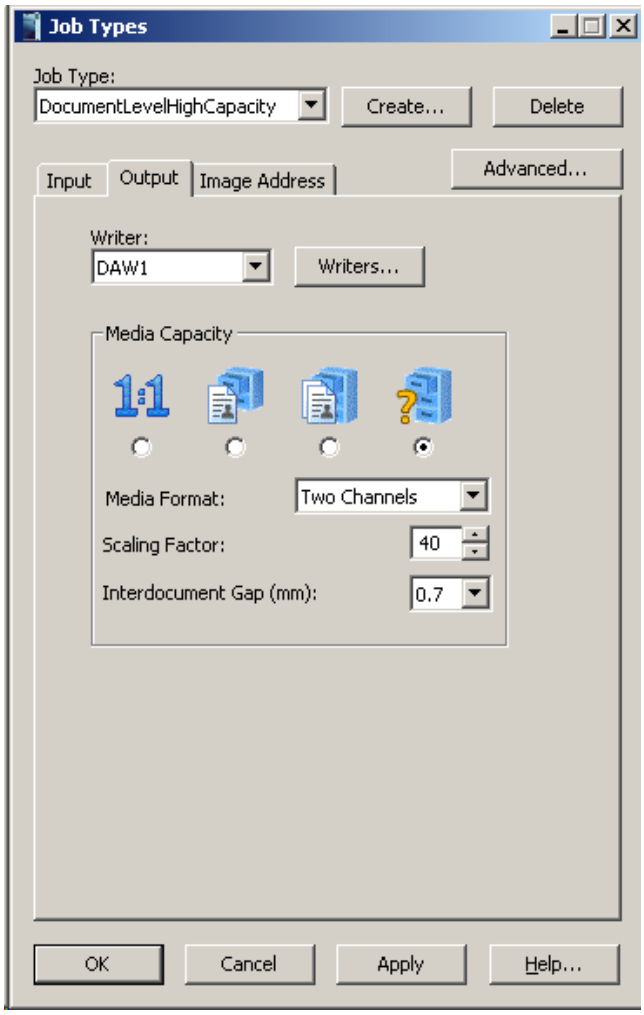
Cancel — to ignore your selection and close the Browse For Folder window.

To select a Batch or Poll directory:

1. Select the drive where the desired Batch or Poll directory resides.
2. Select the desired Folder.
3. Click **OK**.

Output tab

Writer — provides a drop-down list of Writers currently set up in the system. Select an existing Writer from the list or if you want to set up a new Writer, click **Writers** to display the Writers dialog box. See the section entitled, “Setting up a Writer” earlier in this chapter for procedures.



Media Capacity — the Writer can write documents at 1:1 to 1/99X (99X) of their hard copy size. Reductions are achieved through image file scaling. See the illustration entitled, “Examples of scaling and image orientation on media” at the end of this section. Media capacity choices include: No scaling, Normal, High and Custom. The selected reduction ratio will be included at the end of the annotation.

No scaling: image size on the media is dependent on the digital resolution (dpi) and image size in pixels of the image file. Use this option when the images have already been sized to fit on the media. Also used for Full Frame format.

Normal: 24X, One Channel.

High: 40X, Two Channel.

Custom: allows you to select the desired media format and scaling factor.

NOTE: For in-depth information on Scaling, see the PDF file, entitled “Understanding Scaling” on the CD.

Media format: select either One Channel, Two Channel or Full Frame.

- **One Channel**: each frame contains only one image.
- **Two Channel**: a frame can contain one or two images. Images are written alternately to the A and B channels on the media. The number of images in any individual frame depends on the grouping and image level. If the grouping is page-level, each frame will contain two images. If the grouping is document-level or folder-level, the B channel will be left blank in any frame where a higher-level image follows the A channel image.

  NOTE: With optical film capture devices, Two channel is associated with front and back, since the fronts and backs of sheets of paper are directly imaged to media. With the Writer, the concept of front and back is not applicable since the input is electronic files, which do not contain fronts and backs, but rather are identified as single-page or multi-page.

- **Full Frame**: the image will be imaged across the full width of the film. There will be no image marks. This option is useful when you are doing jacket film or if you have no need to do automated retrievals. Images will be centered in the frame.

  No Grouping is allowed when using Full Frame. When using Batch Input mode, all input files must be in the directory that is identified in the *Path to Input Source* field of the Job Type dialog box. Subfolders cannot be used.

  Scaling Factor: enter a scaling factor as a number from 0 to 99 (i.e., 32 would be 32X scaling factor).

Interdocument gap — enter a value from 0.6 mm to 5.0 mm to set the distance between images on media. The default is 0.7 mm. This value will always be measured in millimeters regardless of how the units of measure are set for your system.

NOTES:

- Reducing more than 60X may produce undesirable image quality and is not recommended.
- For **Normal, High,** and **Custom,** it is recommended that you enable **Exception Scaling**. Exception Scaling will automatically reduce any images that are too large so they fit on the film.

Non-Full Frame - Standard scaling

The maximum page widths and lengths accommodated by the Writer are listed below for standard scaling.

Standard Scaling Factor	Maximum Width One channel	Maximum Width Two channel	Maximum Length 4800	Maximum Length i9600
24X	302 mm 11.9 in.	149 mm 5.9 in.	538 mm 21.2 in.	1244 mm 48.9 in.
32X	403 mm 15.9 in.	198 mm 7.8 in.	718 mm 28.3 in.	1659 mm 65.3 in.
40X	490 mm 19.3 in.	241 mm 9.5 in.	871 mm 34.3 in.	2073 mm 81.6 in.
50X	632 mm 24.9 in.	312 mm 12.3 in.	1125 mm 44.3 in.	2592 mm 102 in.

Non-Full Frame - No scaling

Image size on the media is dependent on the digital resolution (dpi) of the image file. The maximum page widths and lengths accommodated by the Writer are listed below for no scaling.

Image Resolution dpi	Effective Scaling Factor	Maximum Width One channel	Maximum Width Two channel	Maximum Length 4800	Maximum Length i9600
100	77X	977 mm 38.5 in.	482 mm 19.0 in.	1740 mm 68.5 in.	4064 mm 160 in.
200	39X	490 mm 19.3 in.	241 mm 9.5 in.	871 mm 34.3 in.	2032 mm 80 in.
300	24X	325 mm 12.8 in.	160 mm 6.3 in.	579 mm 22.8 in.	1354 mm 53.3 in.
400	19X	246 mm 9.7 in.	121 mm 4.8 in.	436 mm 17.2 in.	1016 mm 40 in.
600	13X	162 mm 6.4 in.	78 mm 3.1 in.	289 mm 11.4 in.	677 mm 26.6 in.

NOTE: The default output resolution for image formats other than TIFF is 200 dpi. All PDF, Word, PowerPoint, JPG and BMP files will be converted to black and white TIFF files before being sent to the Archive Writer.

The 200 dpi default can be changed via a registry setting. See the Release Notes on the Installation CD for more information.

Full Frame - Standard Scaling

For i9600 Writers only.

Standard Scaling Factor	Maximum Width	Maximum Length
24	384 mm 15.1 in.	1244 mm 48.9 in.
32	512 mm 20.1 in.	1659 mm 65.3 in.
40	640 mm 25.1 in.	2073 mm 81.6 in.
50	800 mm 31.5 in.	2592 mm 102 in.

Full Frame - No scaling

For i9600 Writers only.

Image Resolution dpi	Effective Scaling Factor	Maximum Width	Maximum Length
100	77X	1232 mm 48.5 ± in.	4064 mm 160 in.
200	39X	624 mm 24.6 in.	2032 mm 80 in.
300*	24X	384 mm 15.1 in.	1354 mm 53.3 in.
400	19X	304 mm 11.9 in.	1016 mm 40 in.
600	13X	208 mm 8.1 in.	677 mm 26.6 in.

* Images with large amounts of graphic content or color photos should be written with **No Scaling** whenever possible to prevent moiré patterns due to scaling of black and white data when writing to film. For more detailed information on scaling, see the document entitled, “Understanding Scaling” on the Installation CD.

Image Address tab

The options on the Image Address tab are not available in Full Frame mode.

Use the fields on the Image Address tab to control how image addresses are created, and at what level each image will be written to media. These values determine what will be accepted as a valid starting image address for a new job.

NOTE: The image address and scaling factor may be written on every image in human-readable characters placed between the image mark and actual image.

Grouping — images are grouped in order to facilitate ease of retrieval. If grouping is assigned in the job type, each image is assigned an image address that can be stored in an index database.

- If Grouping is not enabled, images are not assigned an image address, and image marks are not written in frames. Images cannot be retrieved with automatic methods. If provided, the Fixed field annotation will still be written to film.
- If Grouping is enabled, the Page-level, Document-level or Folder-level groupings will be available.

Page-level: images are not grouped. Every frame is written with a small image mark.

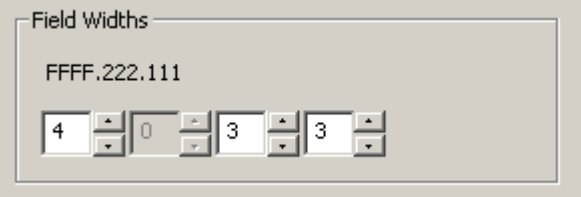
Document-level: images are grouped using a document-level hierarchy. The first frame within each group is written with a medium image mark. Subsequent frames within the group are written with a small image mark. Retrievals can be made of an entire group or individual images.

Folder-level: images are grouped using a folder-level hierarchy. The first frame within each group is written with a large image mark. Subsequent frames within the group are written with a medium or small image mark depending on the image level specified via the input method. Retrievals can be made of an entire group, document-level subgroup, or individual images.

Field Widths — an image address can have up to four segments depending on the Grouping selected. You must designate the maximum number of characters needed in each segment. For example, on a page-level roll with 10,000 images, the Page Level field width must be at least 5. The total for all enabled segments cannot exceed 12 but the maximum for each individual segment is 9.

NOTE: If you are experiencing 256 errors, one of your field widths is too small for the number of documents at that level. For example, if you are archiving a single-page TIFF job with 2 levels and you have a document level set to 3, and your job has more than 100 folders, you will get a 256 error because ‘100’ will not fit in a field width of 2.

A field width must be specified for each enabled segment, except Fixed which is optional. If you select Page-Level grouping, page-level field width is enabled. If you select Document-Level grouping, page-level and document-level are enabled. If you select Folder-level grouping, Page-level, Document-Level and Folder-Level are enabled. The illustration below shows a document-level grouping with a fixed field width of 4, a document field width of 3 and a page field width of 3.



Starting Image Address — this field is populated with the value from the job type when a job type is selected. This value can be changed if desired, but the value must comply with the values specified in the job type.

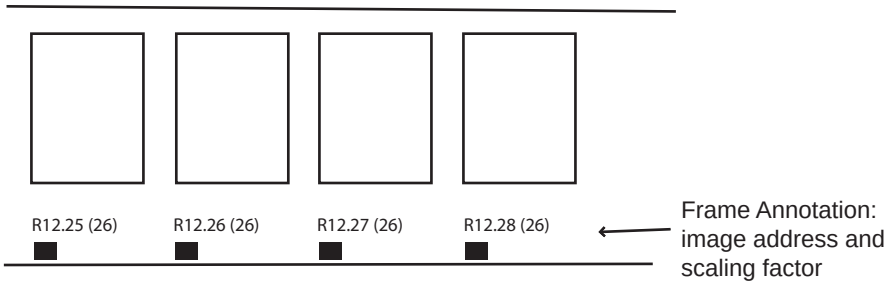
See Appendix D, *Grouping, Image Addresses and Image Marks* for detailed information.

Write Image Annotation — when enabled, the image address and reduction ratio of the current frame will be printed next to the image mark. This option is not available for Full Frame mode.

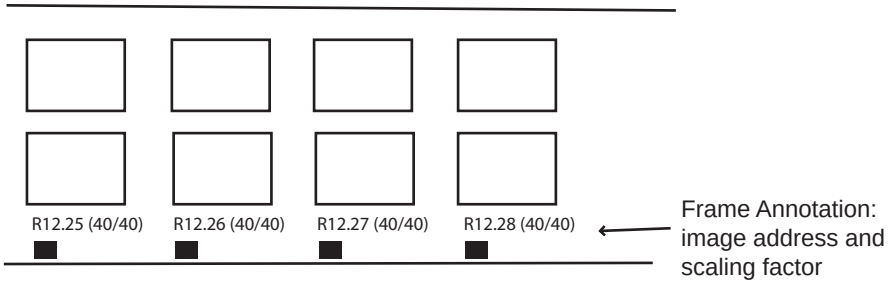
The format of the image annotation will be the Fixed field followed by the image address, followed by an indication of the reduction ratio. FFF.333.222.111[X/X]

[24] Simplex 24X
[40/40] Duplex 40X
[1:1] No scaling
[40/65] Duplex 40X when the B channel was exception scaled to 65X

Example 1: One channel, 24X reduction with frame annotation.



Example 2: Two channel, 40X reduction with frame annotation.

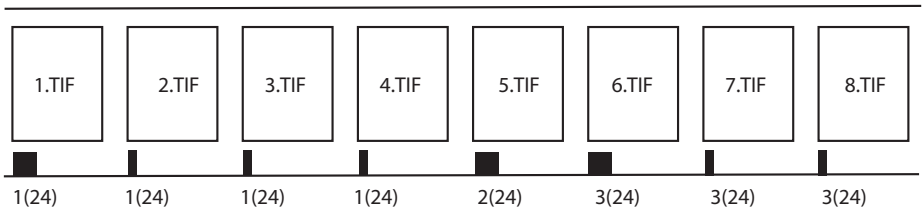


Two-level Offset Addressing — if selected, the image address that will be assigned under a level 2 image mark, will only have a portion of the image address that contains the level 2 address.

Example 1: 2 level, Standard and 2 level, Offset.

Image File	Standard 2 level address	2 level offset address
C:\Images\.1TIF	1.0	1
-C:\Images\.2TIF	1.1	1
-C:\Images\.3TIF	1.2	1
-C:\Images\.4TIF	1.3	1
C:\Images\.5TIF	2.0	2
C:\Images\.6TIF	3.0	3
-C:\Images\.7TIF	3.1	3
-C:\Images\.8TIF	3.2	3

Example 2: 2 level offset on film

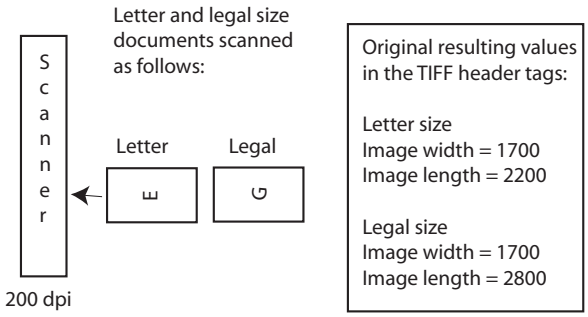


NOTE: The transfer file will only have a single level address, as shown above under the 2 level offset column.

Example 3: Transfer File

C:\Images\.1TIF	1	5678	1
-C:\Images\.2TIF	1	5678	1
-C:\Images\.3TIF	1	5678	1
-C:\Images\.4TIF	1	5678	1
C:\Images\.5TIF	1	5678	2
C:\Images\.6TIF	1	5678	3
-C:\Images\.7TIF	1	5678	3
-C:\Images\.8TIF	1	5678	3

Examples of scaling and image orientation on media



These scanned images will print to media as follows:

Scaled to 24:1 One channel

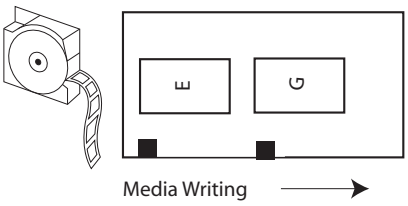
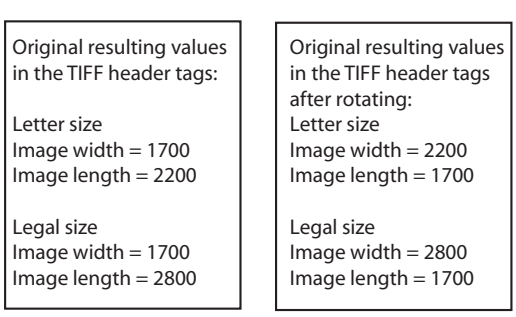


Figure 1



These scanned images will print to media as follows:

Scaled to 32:1 One channel

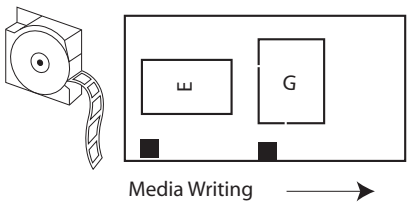
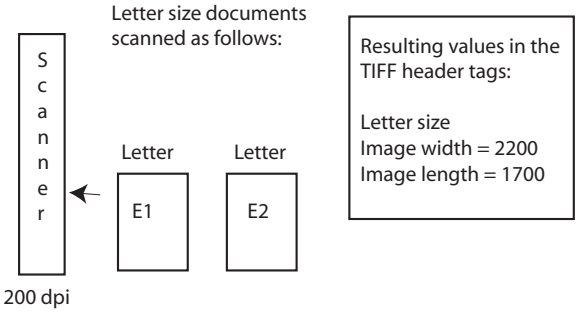


Figure 2



These scanned images will print to media as follows:

Scaled to 24:1 One channel

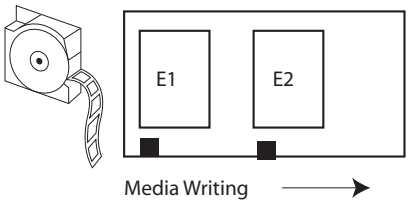
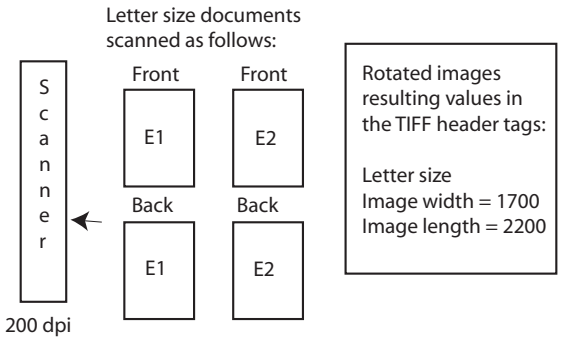


Figure 3



These scanned images will print to media as follows:

Scaled to 40:1 Two channel

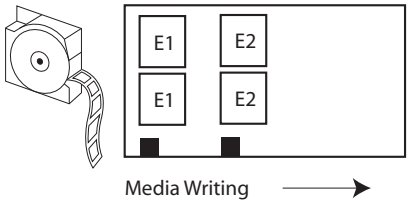
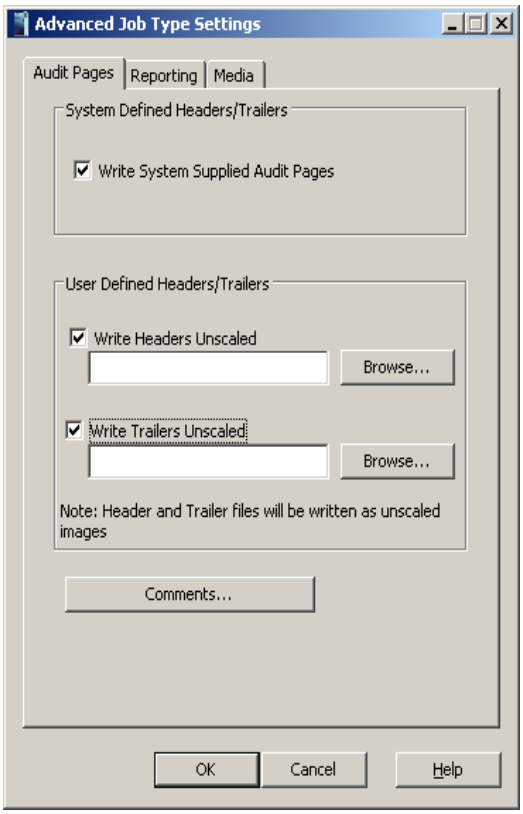


Figure 4

Advanced Job Type settings dialog box

The Advanced button on the Job Types dialog box provides access to additional options you may want to set. The Advanced Job Type Settings dialog box provides three tabs: Audit Pages, Reporting and Media.



Audit Pages tab

The Audit Pages tab allows you to write header and trailer information as well as add customized comments to the system generated header file.

Header and trailer pages are images that can be added to the beginning and end of a roll of media.

Header and trailer pages are not assigned an image address, do not appear in the transfer file, and the frame containing them does not receive an image mark.

Each header and trailer page input file must be an image file, or a text file that conforms to the Writer's input file specifications. For more information, see Appendix E, *Image File Specifications*. The application software converts any non-TIFF files to TIFF format prior to writing to media. If a directory contains multiple files, the files within the directory are sorted and written to media using the ASCII file sorting algorithm, so be sure to name the files accordingly in order to get the desired sequence on media.

Write System Supplied Audit Pages — when this option is enabled, the following documents are written to media unscaled:

- System Generated Header Page: this text file contains the job type, day, date, Writer name, input source path, roll ID and comments.
- Quality Target: a digitally created target that tests the writing elements of the writing array. Quality targets are written unscaled.
- Blank: a blank image generated by the application software.
- System Generated Trailer Page: this text file contains the job type, day, date, Writer name, input source path, roll ID and comments. This page may be written scaled or unscaled.

The system generated header and trailer page information is written in the following order:

- System Generated Header Page
- Quality Target - includes optional system quality targets
- Blank
- User Defined Header Page(s), if provided.
- All images written to media
- User Defined Trailer Page(s), if provided
- Blank
- Quality Target
- System Generated Trailer Page

User Defined Headers/Trailers — you can enable the **Write Headers** and/or **Write Trailers** options. If you enable one or both of these options, all pages will be automatically unscaled. If you want to have the user defined header or trailer images scaled the same as the job images, then the specified directory must end in "_SCALE".

Write Headers Unscaled — if checked, the header pages found in the Header Pages directory are written to media at the beginning of each roll unscaled prior to the first image designated via the input source. Enter the path to a directory name where the header images reside or select **Browse** to display the Browse For Folder window. All images in this location will be used as header pages.

Write Trailers Unscaled — if the **Auto Add File Trailer at Job Completion** option is selected on the main screen and this option is checked, you will be prompted to write the trailer pages unscaled found in the Trailer Pages directory at the end of the roll after the last image designated via batch or list input. Enter the path to a directory name where the trailer images reside or select **Browse** to display the Browse For Folder window. All images in this location will be used as trailer pages.

Comments — select this option if you want to add comments to the system generated header pages. You can enter up to 255 characters of information in the Comments area.

Reporting tab and Transfer pages

The Reporting tab allows you to specify the creation of Transfer files and configure the parameters associated with the Transfer files.

A Transfer file can be generated during the writing of images to media. It contains indexing information that can be uploaded to an image retrieval database. The location of the Transfer file is based on the location defined in the Path for Transfer file field. The filename will be (Roll ID).xfr.

NOTE: If the job is rerun or another job is run with the same Roll ID, the newest run of the job will overwrite any existing transfer files.

If a job spans more than one roll, the Transfer file for each subsequent roll will be created in the same directory as the Transfer file for the first roll. For example, when the transition from roll 1 to roll 2 occurs, the Transfer file <2.xfr> will be created in the directory <1>.

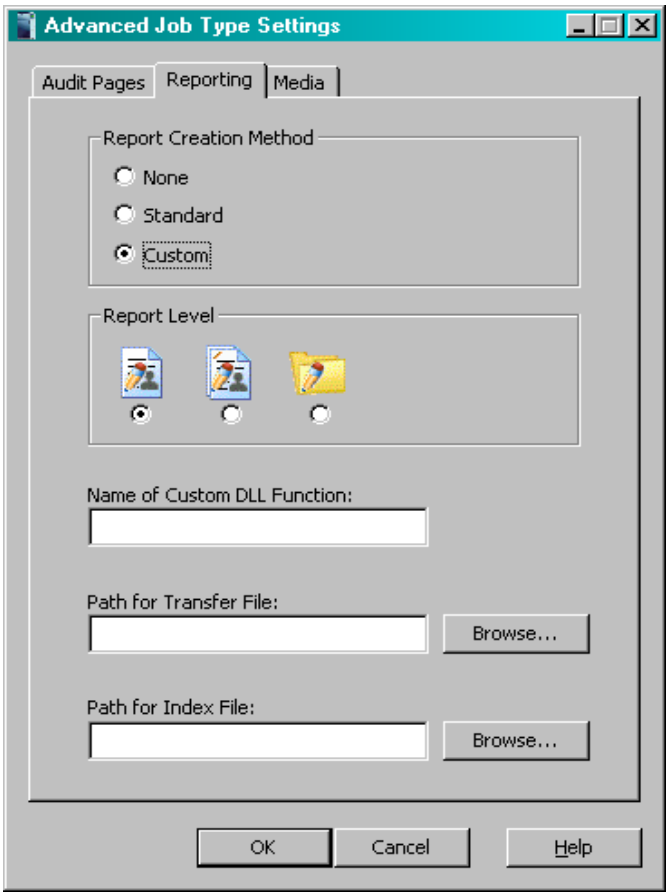
A standard or custom Transfer file can be generated. A standard Transfer file provides a cross-reference of input filename to Roll ID and image address. The page number within the input file is also listed. The fields are separated by tabs. See the document-level example below, using page-level reporting.

Filename	Page No. within file	Roll ID	Image Address
c:\Input\abc.tif	1	9999	FF.001.000
c:\Input\abc.tif	2	9999	FF.001.001
c:\Input\xyz.tif	1	9999	FF.002.000

Tabs

A custom Transfer file can be created via a user exit routine. This provides the capability to append additional data to the information in the standard Transfer file. For more information, see the *KODAK i9600 Application Software, Integrator's Guide,* A-61057.

For a sample exit, see the xx/samples/Custom User Transfer Files\ folder on the installation CD.



Following are descriptions of the fields on the Reporting tab:

Report Creation Method — the following options for creating the Transfer file are available:

- **None**: a Transfer file will not be created.
- **Standard**: the system-defined standard Transfer file will be created.
- **Custom**: enables the *Name of Custom DLL Function* field, which allows you to specify the function name as defined in the C file of your customer DLL.

Report Level — depending on the grouping, Transfer file entries can be done at the page-, document- or folder-level. Page-level yields a larger set of data than folder-level which yields the smallest set of data. Your retrieval requirements will dictate which reporting level to use.

- **Page-level**: the Transfer file will contain index information for every image on the media. Applicable to any grouping.
- **Document-level:** the Transfer file will contain index information for every image located in a folder-level and document-level frame on the media. Applicable to folder-level and document-level grouping.
- **Folder-level:** the Transfer file will contain index information for every image located in a folder-level frame on the media. Applicable to folder-level grouping.

Name of Custom DLL Function: the actual function name as it is defined in the C file of your custom DLL.

Path for Transfer File: the path location of the Transfer file. If no value is specified, the file will be placed in the standard location, e.g. c:\Program Files\Kodak\Kodak i9600 Application Software\"Job Type Name"\"Roll Number".

Path for Index File: the path location of the index data file containing information to be appended to the standard data in the Transfer file.

Media tab

The Media tab provides options for image polarity, image borders, image management code and cassette usage.

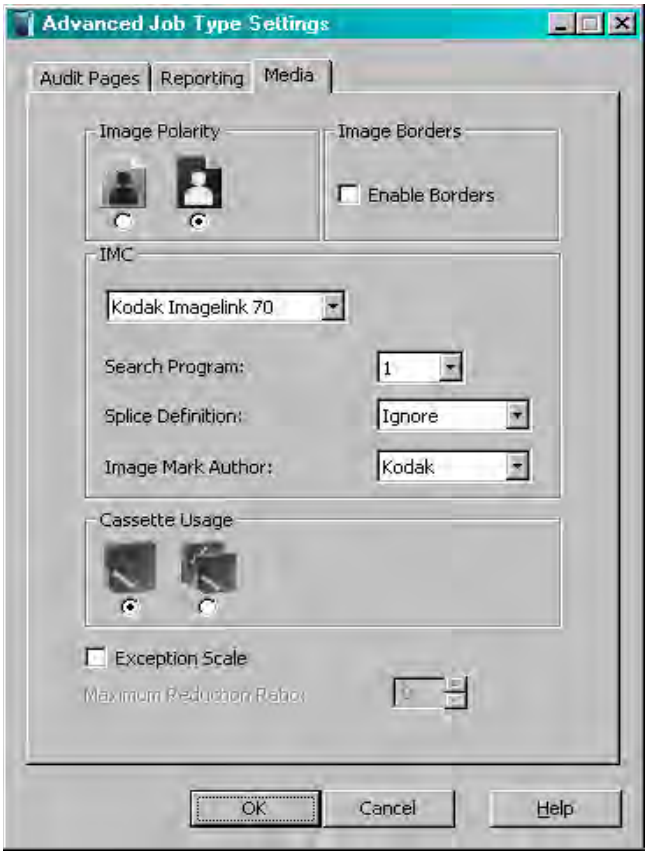


Image Polarity — the Writer has the ability to write images in a positive or negative image polarity.

Positive: black characters on a clear background.

- Retrieval equipment does not need the capability of inverting images for display on an optical screen.
- Lack of definitive borders may occur in some images on media. An image border can be placed around positive images during writing to media, to delineate the edges of the image.

Negative: clear characters on a black background.

- The default in traditional microfilm retrieval equipment.
- Minimizes the impact of dust or other contamination when displaying an image during retrieval.

Image Borders — when this option is enabled, a thin border will be placed around all images. Placing a border around images helps identify the boundaries on positive polarity images.

IMC — controls the type of IMC (Image Management Code) that will be written to the media preceding the images for every job where this option is enabled.

IMC capability includes lead-end and preset coding, which provide automatic setup parameters for the image retrieval device.

The drop-down list allows selection of IMC as implemented for various Kodak optical film capture devices. This facilitates integration of the Writer in environments where the retrieval devices support current Kodak IMC. The options are: Disable IMC, Kodak Imagelink 70 code, Enable RIM2000 code, or Random Batch. The default is Disable IMC.

NOTE: If Random Batch is selected, Search Program, Splice Definition and Image Mark Author are not enabled.

Search Program — if IMC is selected, a search program must be specified. The search program tells the retrieval device which channel(s) (A and/or B) contain image marks, the image mark sizes present on the media, and the image level represented by each image mark size. This allows the retrieval device to locate and count the image marks according to your needs. There are 31 search programs available for use when writing images to media but the Writer does not support creation of media for all of these. The drop-down list contains the search programs that are supported by the Writer. Available search programs are: 1, 3, 7, 10, 12 and 18.

The table below provides information about the supported search programs, to assist you in determining which program is appropriate based upon the media to be written and the retrieval needs.

NOTE: The Search Program field drop-down box contains a value of “1”, but the table does not. Search program 1 is used for odometer-indexed media, which has special retrieval requirements and does not contain image marks.

Index Format	Image Mark Location	Image Mark Sizes	How image marks will be counted during retrieval	Search Program
page-level	Channel A	Small	Count small image marks as page-level images.	3
document-level	Channel A	Small Medium	Count small image marks as page-level images, and medium image marks as document-level images.	10
folder-level	Channel A	Small Medium Large	Count small image marks as page-level images, and both medium and large image marks as document-level images.	12
folder-level	Channel A	Small Medium Large	Count small image marks as page-level images, medium image marks as document-level images, and large image marks as folder-level images.	18
Any	Channel A	Any/All	Count all image marks as page-level images.	7

Splice Definition — specifies how splices will be counted during retrieval. The drop-down list provides these splice definitions: Ignore Splices (default), Count splices as page-level, Count splices as document-level, or Count splices as folder-level.

Cassette Usage — select the number of cassettes to be written.

One cassette: writing to one cassette, either the top or the bottom.

Two cassettes: writing to two cassettes simultaneously. The i9600 Application Software will check to make sure that 2 cassettes are in the Writer and that both cassettes have approximately the same amount of film.

Exception Scale — if enabled, will automatically scale images that are too large to write to media. If you select this option, images will be scaled until either the image fits or the scaling factor exceeds the maximum reduction ratio. All frames that include a scaled image will be annotated. If the scaling factor exceeds the maximum reduction ratio, a message will be displayed and the job will stop. Images that are scaled will be written to media with an image border.

NOTE: For **Normal, High,** and **Custom,** it is recommended that you enable **Exception Scaling**. Exception Scaling will automatically reduce any images that are too large so they fit on the film.

Maximum Reduction Ratio — a number between 0 and 99 which indicates the maximum reduction ratio that can be applied to the image during writing. If this value is not set large enough, an error will be displayed. This value must be set greater or equal to the scaling factor set on the Output tab.

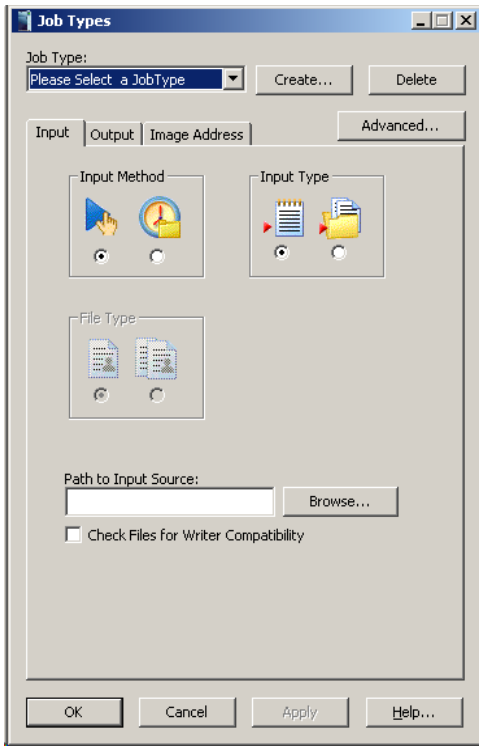
Creating a job type

Job types are created and/or modified via the Administration menu option.

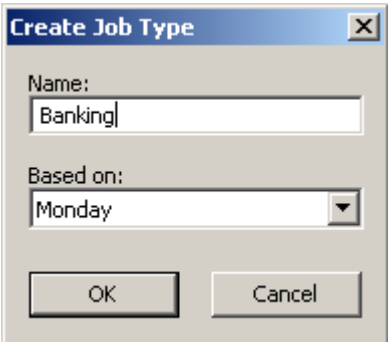
NOTE: If a job is not “Verified” and you attempt to make any changes, the following message will be displayed:

To create a job type:

1. Select **Administration>Job Types**.



2. Select **Create**. The Create Job Type dialog box is displayed.



NOTE: When using **Create Job Type** the *Name* field cannot be a subset of the *Based on* name (i.e., if *Based on* name is JOB22 the new name cannot be JOB22, JOB2, JOB, JO, J.)

3. Enter the desired job type name. The name can be a maximum of 50 characters, and include any keyboard character except an ‘(apostrophe) and | (the pipe character).
4. Select a Based on job type from the drop-down list of existing job types and click **OK**. All parameters from the selected job type are copied to the new job type.
5. Change any of the copied parameters or set new parameters as necessary on the other tabs on the Job Types dialog box. The fields on these tabs are described earlier in this chapter.
6. Click **OK** to save the job type and close the Job Types dialog box or **Apply** to save the job type and keep the Job Types dialog box displayed.

Modifying a job type

1. Select **Administration>Job Types**.
2. Select the job type you want to modify from the Job Type drop-down list.
3. Make the desired changes on the tabs in the Job Types dialog box.
4. Click **Apply** to save the changes and keep the Job Types dialog box open, or click **OK** to save the changes and close the Job Types dialog box.

NOTE: Any job in the queue, when set to a *Reverified* status and rerun, that uses this modified job type will use the new values.

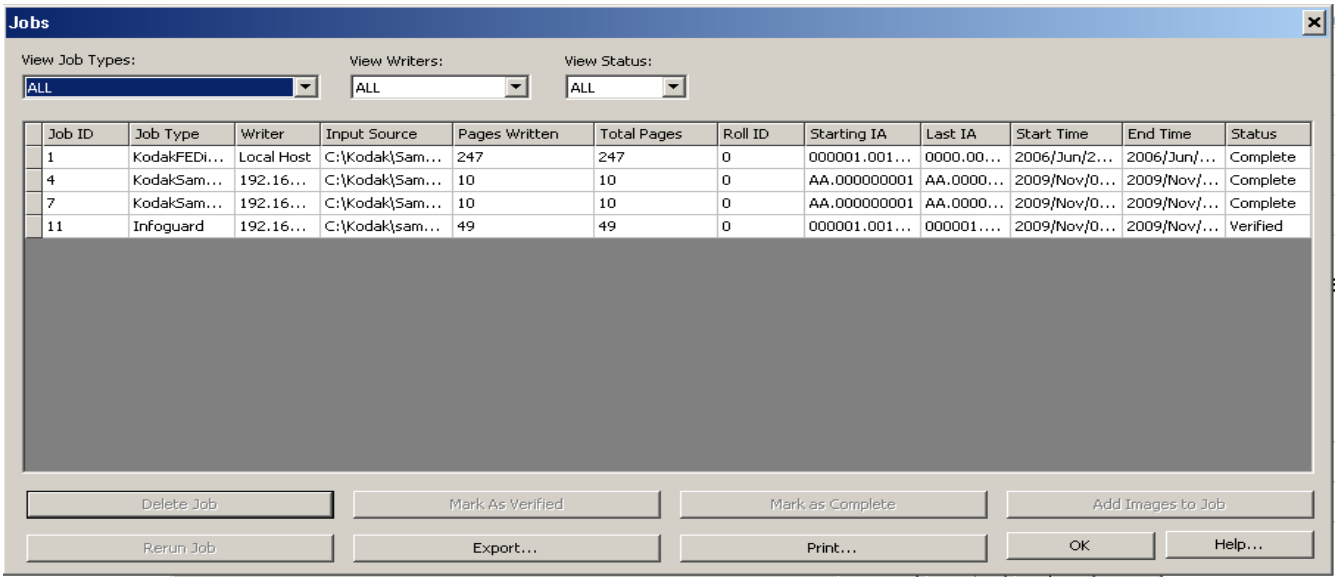
Deleting a job type

To delete a job type:

1. Select **Administration>Job Types**.
2. Select the job type you want to delete from the Job Type drop-down list.
3. Click **Delete**. The message, ***Are you sure you want to delete the selected job type*** is displayed.
4. Click **OK** to continue with the deletion.

Viewing jobs in the system

When you select **Administration>Jobs,** the Jobs dialog box is displayed:



This dialog box provides a listing of all jobs in the system. You can use the drop-down lists located at the top of the window (View Job Types, View Writers and View Status) to select only the jobs you want to view, or you can select several lines at a time by using the CTRL+A keys. If you use the CTRL+A key sequence, you must have a line highlighted first for this to work.

Delete Job — when selected, will remove the selected job from the system. Only verified jobs and their associated files can be deleted.

Export — when selected, will display the Export Jobs dialog box. A comma-delimited .txt file will be saved in the selected location. This file may be used to import data into a data management system.

Mark As Verified — verifying a job is used to facilitate job and roll tracking for quality control and audit purposes. Once a roll is successfully verified for image quality, etc., the job status can be changed to indicate that, and the job information can be removed from the job listing.

Add Images to Job — places the selected job in the Jobs queue to make it available to add images.

Rerun Job — places the selected job in the Jobs queue to make it available for running again and the image address is set to the initial value.

Mark As Complete — will change the status of the job to *Complete*. The job will no longer show up in the job queue on the Main window.

Print — prints the contents of the Jobs window.

OK — saves the values and closes the window.

System settings

The System Settings option on the Administration menu allows you to set values for error logging and system performance. To access the System Settings dialog box:

NOTE: After changing the Logging Level, you must restart the *Kodak* i9600 Application Software in order for the changes to take effect.

- Select **Administration>System Settings.**

Error Logging — provides the following Error Log options:

- **Log File size:** an entry in this field is required. Enter a whole number between 4,000 and 32,767 KB. The oldest errors in the Error Log file will be deleted in order to keep the size of the file less than this value.
- **Logging Level:** provides a drop-down list allowing you to select the level of errors you want to log.
  - Diagnostic: logs all diagnostic messages, as well as informational, warning, and default errors.
  - Informational: logs all informational, warning and severe errors.
  - Warning: logs all warning and severe errors.
  - Severe: logs only severe errors. These errors are serious and will halt the system. This is the default.

Performance — the parameters listed below are set to optimize performance.

During installation the values of these parameters are set to the default. For most job types, the defaults are sufficient and should only be changed to address a specific issue and after a thorough review of the following information.

- **File Retry Delay** — the amount of time (in seconds) to wait before attempting to copy an image file to the Writer again. This value is used in conjunction with the File Retry Count value to determine the total amount of time the application software will wait for the Writer to process existing commands and image files and make space available on its disk. Default: 2 seconds.

  The combination of the default File Retry Delay (2 seconds) and default File Retry Count (40 times) gives the Writer at least 80 seconds to finish processing commands and image files and make space for new commands and files. For most applications this is sufficient; however, when processing very large image files (greater than 750K), at least 80 seconds may not be enough. In this case, the File Retry Count needs to be increased. Increase the value in increments of 5 until the largest file can be processed without a 3034 error occurring. It is important not to set this to some arbitrarily large value, because in the event of an error, this can increase the time it takes to report the error. Setting File Retry Count to a value too small causes the 3034 error to occur more frequently.

  Generally, the File Retry Delay should be kept at the default. Decreasing this value causes the copy requests to become more frequent but also increases network traffic. Increasing this value may cause a loss of throughput.

  The product of File Retry Delay and File Retry Count must be a time interval larger than the time it takes to process the largest image file.

- **File Retry Count** — the number of times the application software will attempt to copy an image file to the Writer before giving up and signaling an error. This value is used in conjunction with the File Retry Delay value to determine the total amount of time the application software will wait for the Writer to process existing commands and image files and make space available on its disk. Default: 40.
- **Number of Commands** — the maximum number of print commands that can be active simultaneously. The maximum value depends on the Number of Files value since the product of the Number of Files and Number of Commands, cannot exceed 120. Default: 4.
- **Number of Files** — the maximum number of image files that a print command can contain. The maximum value depends on the Number of Commands value. The product of the Number of Files and Number of Commands cannot exceed 120. Default: 4.

The Number of Commands and Number of Files work together to maximize command and image throughput by minimizing the amount of time the Writer will have to wait for print commands. This is accomplished by ensuring that there are at least two commands active at once: the command currently being processed by the Writer, and the command on the Writer disk waiting to be processed. This results in four active commands:

- one command being built and copied to the Writer
- one response received from the Writer when a command is completed
- the two commands on the Writer (one waiting to be processed and one being processed)

This implies that the minimum value for Number of Commands is 4. This value is usually left at the default value of 4, which allows a few extra commands available if needed.

Image file size and Writer disk size must be considered when determining the appropriate value to enter for the Number of Files. To determine this value, use the following formula as a guideline:

$$\frac{\text{Maximum available Writer disk space}}{\text{Number of commands}} \div \text{average image file size, rounded down}$$

- **Transaction timeout** — the maximum time (in seconds) the application software will wait for the Writer to process a command and send a response. Default: 300. This value may only need to be changed when the processing of a print command and its associated images takes longer than 90 seconds.

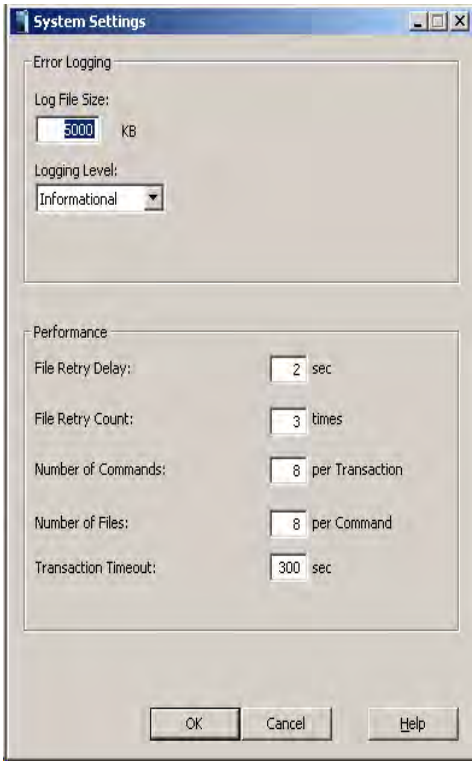
  The value of this parameter should always be about 30 seconds larger than the time specified by the Retry Delay and File Retry Count parameters.

  NOTE: If network performance seems to be an issue, the following values may optimize performance: 2, 40, 4, 4, 300 respectively.

Setting system values

Before setting or changing system values, refer to the previous section for detailed field information.

1. Select **Administration>System Settings**.



2. Enter a Log File Size. You must make an entry in this field between 4,000 and 32,767 KB.
3. Select a Logging Level. Choices are: **Diagnostic, Informational, Warning** and **Severe**.
4. Enter the amount of time to wait before attempting to copy an image file to the Writer again in the File Retry Delay field.
5. In the File Retry Count field enter the number of times the application software will attempt to copy an image file to the Writer before giving up and displaying an error.
6. Enter the maximum number of print commands that can be active simultaneously in the Number of Commands field.
7. Enter the maximum number of image files that a print command can contain in the Number of Files field. The maximum value depends on the Number of Commands value.
8. When finished, click **OK**.

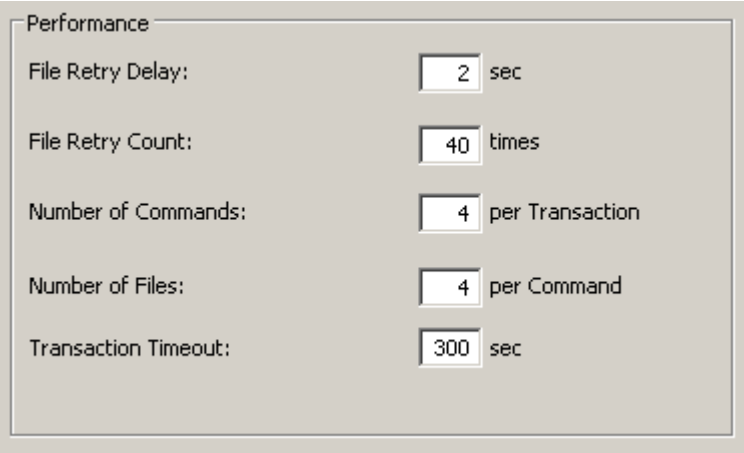
5 Troubleshooting

The Error Log can be found in “C:\Program Files\Kodak\Kodak i9600 Application Software\ki96as.log” for Windows XP. For Windows Vista or Windows 7 the Error Log can be found in “C:\Users\Public\Kodak Application Software”. There is a link to this log from the program group that is labeled **KI96AS.log** that can be used to quickly view the log. When checking the log file for errors, scroll to the first error with the same time stamp as the last error. This begins the error and reporting sequence for the current error.

In general you should first look for error numbers from 100-999. If there is a sequence of errors at the same time then the 3-digit error will normally be the root cause of the problem which was posted by the Writer and the other 4-digit error numbers will be generated by the application software reacting to this error. All 3-digit error numbers originate in the Writer but may be caused by a software issue such as a bad TIFF file.

If there is no 3-digit error number, then there will often be a series of three errors such as 10xx,20xx,30xx (i.e., 1013,2017,3034). This is normal and caused by different parts of the application reporting a problem.

For general software errors the following Performance settings (which can be accessed by selecting **Administration>System Settings)** may improve reliability.



Often a TIFF file from the Input Source will be listed as a possible problem image in the error messages. However, the true problem file may be several files before this file in the input image stream. Depending on the size of your files, the Writer can hold many files in its internal memory that are waiting to be written to media. If an error occurs in the Writer, the i9600 Application Software may not know which file being processed caused the problem, therefore the last file that was sent to the Writer is suspect. If a bad input file is suspected then you should look at more than the last image that was sent to the Writer.

A good tool for determining a problem image is the Transfer or Report file (*.XFR). If the reporting level is set to **Page** then for every file that is successfully processed by the Writer there is a line added to the Transfer file. If there is a bad image and you have set up your Job Type to create a Transfer file that is reporting a the page level the bad input TIFF file is usually the next file in the input stream following the last file listed in the Transfer file.

Also, it is critical that the 9-volt batteries in the cassettes be replaced frequently. The low battery indicators on the cassette often do not indicate that there is a low battery condition soon enough to prevent communications errors with the Writer. If you are having unexplained communications errors (socket errors), the problem may be the batteries in your cassettes. The following is a general guideline to ensure the highest performance of your system:

- If you write 1 to 2 rolls average per day then replace your battery every 2 weeks.
- If you write 3 to 5 rolls average per day then replace your battery once a week.
- If you write more than 5 rolls average per day then replace your battery every 3 days.

Kodak is continually improving the reliability of the firmware within the Kodak i9600 Writers. Many problems have been corrected from previous versions. The Writer firmware is easy to update (just replace the DAW4800.exe, DAW9600.exe or DAW96XX.exe file in the host PC with a newer one) and corrects many issues. The most current version of our Controller firmware can be found on our website: www.kodak.com/go/disupport. After selecting your country, select **Micrographics>Microfilm Cameras>i9600 Series Writer>Drivers & Downloads.** If you are on an older version of firmware, ask your Field Engineer to upgrade your firmware during his next visit. If you are experiencing problems, Kodak support can email a new version of firmware with instructions for upgrading your system.

NOTE: We do not recommend using the diagnostic error logging level; this is intended for use by Kodak Service.

Errors numbered 1000 through 9999 in the log file are application software errors. If the error was caused by an error on the Writer itself, an error numbered 100 through 999 may follow the application software error(s) in the log.

Writer errors 103 through 229 are recoverable by rebooting the Writer. If any of the other Writer errors are not recoverable by rebooting the Writer, call the Kodak Customer Response Center or your integrator.

Generally, 100-series errors are warnings/informational messages, 200-series errors are warnings/correctable situations, 300-series errors are development debug tools, 700-series are critical imaging chain errors, 900-series are other critical system errors.

NOTE: Errors that are displayed regarding the *Kodak* i9600 Series Writer or the *Kodak Digital Science* Document Archive Writer 4800 can also be found in the User's Guide for the *Kodak* i9600 Series Writers, A-61058.

Setup problems

If you are having set up problems, refer to the following information:

Cannot connect to the Writer

1. If you cannot connect to the Writer from the application software, reboot the Writer and then reboot the workstation that the application software is running on.
2. Boot the Writer.
3. If you still cannot connect to the Writer, contact the System Administrator.

Bad Image: If a bad image is detected during writing of images to media, a dialog box provides the name of the bad file. You must replace this file with any good TIFF file (you may use a blank TIFF). The bad file must be replaced, it CANNOT be deleted**.**

NOTE: Running the input files through the Input Processor with the **Convert to Writer** option enabled, will help to identify non-compliant files prior to processing. For more information see Appendix B.

Check Image Address: If you receive image address format errors, the starting image address for all jobs needs to be verified before the job is started. If you encounter E256 errors, increase the image address field widths.

Error log

The chart below defines the application software error numbers, the corresponding messages, and an explanation of what each error signifies. In certain cases, corrective actions are provided.

Key: %s Actual message contains character designator or file name(s).
%d Actual message contains numeric value.

Code	Message	Description
0	Success	This is the normal return status for all operations. The error log will not usually contain any of these messages.
1000	Error opening file: %s.	The specified file cannot be opened. This usually happens when the application cannot open the file with the permissions it needs to have. A common reason for this error is that another application has the file **locked** by opening it for **one reader only**. This error may also be caused by a file or user permissions problem. **Possible solutions:** • Close all other applications (most notably any photo editing programs) on the host PC. • Reboot the host to clear any locked files. • Create a new directory on the host and move the input TIFF files to this directory. Use this new directory as the input source. • Ensure that there is not a **Read Only** file named 'ATMP.TIF' in the root of the system drive. • If the input files are on a network drive then move them to a local drive.
1001	Error copying file: %s to %s	The specified file cannot be copied. This can be caused by invalid source or destination file paths or by insufficient disk space on the destination drive. This may also be caused by incorrect security settings on the files. The source file must be readable, the destination file must be writable and both files must not be in use or locked by another program.
1002	Error reading file: %s.	The specified file cannot be read. This can be caused by the file not existing, by other programs having the file locked, or by a corrupted file. This can also be caused by low memory conditions, where there is not enough memory to allocate a buffer for reading the file contents.
1004	No index data file specified	The application did not provide the name of an index data file. This is an informational message only.
1007	Failed to write to file: %s.	The file was successfully created, but a failure occurred in writing to the file. This may be caused by disk failures or running out of disk space. If the file is being written to the Writer drive, this error may be caused by the Writer being shut down or by an error occurring in the Writer that removes or corrupts the remote drive connected to the Writer.
1008	Failed to rename file: %s to %s.	An attempt to rename a file has failed. This may be caused by the destination file already existing, or by a failure of the disk the file resides on.
1009	Cannot write file %s: no data to write to it.	An internal program error has caused an attempt to write a zero-length data buffer to the file.

Code	Message	Description
1010	Error creating file%s.	Failed to create the specified file. This may occur if the disk the file is to be created on is corrupted, missing, or out of space.
1011	Error closing file%s.	Failed to close the specified file. This may occur if the disk is corrupted.
1012	Error code%d returned during attempt to create file%s.	Failed to create the specified file. This may occur if the disk the file is to be created on is corrupted, missing, or out of space. The error code is documented in the Microsoft Visual C++ documentation. Refer to the section on error codes returned from the file IO functions.
1013	Error code %d returned during attempt to read file %s.	Failed to read the specified file. This may occur if the disk the file is on is corrupted or missing. The error code is documented in the Microsoft Visual C++ documentation. Refer to the section on error codes returned from the file IO functions. This error could be related to problems with running two cassettes on with the Writer to Cassette communication. Error code 59 is an unexpected Net error. Error code 1117 is an IO error on device.
1014	Error code %d returned during attempt to write to file%s.	Failed to write to the specified file. This may occur if the disk the file is on is corrupted or missing. The error code is documented in the Microsoft Visual C++ documentation. Refer to the section on error codes returned from the file IO functions.
1015	Error code %d returned during attempt to close file %s.	Failed to close the specified file. This may occur if the disk the file is on is corrupted or missing.
1016	Error during attempt to create directory %s.	Failed to create temporary directory to place single-page TIFF files from multi-page TIFF files.
1017	Couldn’t send an input file specification to the Writer for file %s.	Socket error. Look for other errors with the same time stamp for the cause of the error.
1018	Couldn’t send an output file specification to the Writer for file%s.	Socket error. Look for other errors with the same time stamp for the cause of the error.
1019	Couldn’t get an input file specification acknowledgment from the Writer for file %s.	Socket error. Look for other errors with the same time stamp for the cause of the error.
1020	An input file specification contained an invalid filename: %s.	Socket error. Look for other errors with the same time stamp for the cause of the error. Look for 3-digit errors such as E916.
1021	The file %s is too large to fit on the Writer’s disk.	Socket error. Look for other errors with the same time stamp for the cause of the error.
1022	And input file specification acknowledgment contained an invalid value: %c.	Socket error. Look for other errors with the same time stamp for the cause of the error.
1023	Couldn’t get a file content acknowledge from the Writer for file%s.	Socket error. Look for other errors with the same time stamp for the cause of the error.
1024	Failure writing contents of file%s to Writer.	Socket error. Look for other errors with the same time stamp for the cause of the error.
1025	Couldn’t send the file content acknowledgment to the Writer for file%s.	Socket error. Look for other errors with the same time stamp for the cause of the error.

Code	Message	Description
1026	Couldn’t write file%s to the Writer.	Socket error. Look for other errors with the same time stamp for the cause of the error.
1027	Couldn’t read file%s from the Writer.	Socket error. Look for other errors with the same time stamp for the cause of the error.
1028	Couldn’t get an output file specification acknowledgment from the Writer for file%s.	Socket error. Look for other errors with the same time stamp for the cause of the error.
2000	File open error	File could not be opened. **Possible solutions:** • Close all other applications (most notably any photo editing programs) on the host PC. • Reboot the host to clear any locked files. • Create a new directory on the host and move the input TIFF files to this directory. Use this new directory as the input source. • Ensure that there is not a **Read Only** file named ‘ATMP.TIF’ in the root of the system drive. • If the input files are on a network drive then move them to a local drive.
2010	Socket Error %d occurred	Socket error. Look for other errors with the same time stamp for the cause of the error.
2011	(none)	Could not connect to the Writer. Socket error. This error often occurs if the network definitions of the host have been deleted and reinstalled causing the Services file to be rebuilt. **Possible solutions:** • Check that the ‘services’ file (C:\WINNT\system32\drivers\etc\Services) has the following entries: dawtis 5001/tcp dawtos 5002/tcp dawfis 5003/tcp dawfos 5004/tcp • Make a backup of the Services file and then move these four lines to the top of the file. • Replace the battery in the cassette. • Create a new Writer definition and remove any leading zeros from the IP address (i.e., 010.010.010.001 should be 10.10.10.1). • Ensure that there is not a **Read Only** file named ‘ATMP.TIF’ in the root of the system drive. • If the input files are on a network drive then move them to a local drive.
2012	Socket Error %d. Host sockets have been reset.	The Writer has reset the socket connection.

Code	Message	Description
2013	Socket Error %d. No socket data found. Check Services file.	Port and protocol information could not be found. The Services file may not have entries for the socket connections. **Possible solutions:** • Check that the 'services' file (C:\WINNT\system32\drivers\etc\Services) has the following entries: dawtis 5001/tcp dawtos 5002/tcp dawfis 5003/tcp dawfos 5004/tcp Make a backup of the Services file and then move these four lines to the top of the file
2014	Socket Error %d. Host not found. Check Writer name.	The Writer name could not be found either in the host file or on the network.
2016	Can't find winsock.dll.	The winsock.dll is not on the system.
3000	Error writing command %s.	Failed to create a command file containing the specified command. This may be caused by the Writer being offline or inoperable. This problem can be corrected by making sure the Writer is online and the Writer disk is available. It may be necessary to reboot the Writer and to make sure the NFS connection to the Writer is working properly.
3001	Error sending command.	Failed to create a command file containing the specified command. This may be caused by the Writer being offline or inoperable. This problem can be corrected by making sure the Writer is online and the Writer disk is available. It may be necessary to reboot the Writer and to make sure the NFS connection to the Writer is working properly.
3002	Error creating semaphore.	Failed to create a semaphore file. This may be caused by the Writer being offline or inoperable. This problem can be corrected by making sure the Writer is online and the Writer disk is available. It may be necessary to reboot the Writer and to make sure the NFS connection to the Writer is working properly.
3003	Error creating thread.	Indicates a possible problem with the operating system.
3004	Error in Astring parse.	An internal programming error has occurred in the AWOL parsing routine. **Possible solutions:** • In the Performance setting in the System Settings under **Administration**, use the following settings: File Retry Delay = 2 File Retry Count = 40 Number of Commands = 4 Number of Files = 4 Transaction Timeout = 300
3005	Response file for GetErrorInfo command, no response value in file.	An empty Response file has been created by the Writer. This may be due to an internal fault in the Writer. This problem may be corrected by closing the application and restarting the Writer.
3006	Error creating semaphore	Indicates a possible problem with the operating system.

Code	Message	Description
3009	Error parsing response parameter number.	An internal programming error has occurred in the AWOL parsing routine in attempting to parse the response parameter number from the string. This has been seen when restarting a job after replacing a multi-page TIFF file with a single-page TIFF file in the job stream.
3010	Error parsing Archive Writer error number.	An internal programming error has occurred in the AWOL parsing routine in attempting to parse the error number from the response file.
3012	Parameter number out of range.	The parameter number contained in the response file is not valid.
3013	Image buffer full.	The internal image buffer is full. This is normal operation.
3014	Invalid Writer drive.	The application has supplied a drive letter that is invalid. Make sure the specified drive letter is correct.
3016	Command timed out. Command: %s.	The Writer has not responded to the command within the allowed period of time. This error may be caused by a large number of highly compressed files (all black) which are sent to the Writer.
3018	No more files.	This is a normal internal status indicating that no more files are available for processing.
3021	File mismatch. Expected: %s, got: %s, original file: %s.	The response file returned by the Writer contains the wrong file specification. This error indicates a communication or other internal failure in the Writer and may be corrected by closing the application and restarting the Writer.
3022	No image address returned in response file for file %s.	The image log file returned by the Writer does not contain a valid image address where one was expected in the file. This error indicates a communication or operational failure in the Writer and may be corrected by closing the application and restarting the Writer.
3023	Can't open transfer file.	The transfer file cannot be opened. This may be caused by a corrupted hard disk or by an invalid path specified for the location of the transfer files.
3024	Can’t close %s file.	The transfer file cannot be closed. This may be caused by a corrupted hard disk or by an invalid path specified for the location of the transfer files.
3027	Rollname ‘%s’ is too long; name must be a maximum of %d characters,	More than 8 characters have been specified for the roll name.
3030	Failed to get remaining film.	The command to get the remaining film in the Writer cassette has failed. This could be caused by a low battery in the cassette or a communications failure with the Writer.
3031	Command buffer empty.	An internal programming error in the AWOL DLL has occurred.
3032	No more disk space.	There is not enough disk space on the Writer drive to create a file.
3033	Can't overwrite command.	This is an internal program status.

Code	Message	Description
3034	Failed to copy file %s to Writer.	A file cannot be copied to the Writer. This is caused by a failure of the communication link with the Writer or by an internal failure in the Writer. This error could also be caused by a JPG compressed TIFF file being sent to the Writer. **Possible solutions:** • In the Performance setting in the System Settings under **Administration**, use the following settings: File Retry Delay = 2 File Retry Count = 40 Number of Commands = 4 Number of Files = 4 Transaction Timeout = 300
3036	Could not find response file, %s.	A request has been made for information from the Writer, the Writer has executed the command, but no response file was returned. This is caused by a failure of the communication link with the Writer or by an internal failure in the Writer. Correct this by closing the application and restarting the Writer.
3037	Error creating the film leader.	An error was returned from the Writer in attempting to create a film leader. This may be caused by a failure of the film cassette, by not having enough film in the cassette, or by an internal error in the Writer. Correct this problem by making sure the film cassette contains enough film and that the Writer communication link is working properly.
3038	Error in image address on cassette.	The film cassette contains an invalid image address.
3040	Error sending IMC command.	The IMC command could not be successfully sent to the Writer. This is caused by a failure of the communication link with the Writer or by an internal failure in the Writer. Correct this by closing the application and restarting the Writer.
3041	Error sending Image Frame command.	The command to set the next image frame could not be successfully sent to the Writer. This can be caused by a failure of the communication link with the Writer or by an internal failure in the Writer. Correct this by closing the application and restarting the Writer.
3042	Error sending Leader Length command.	
3043	Error sending System command to Writer.	The System command could not be successfully sent to the Writer. This is caused by a failure of the communication link with the Writer or by an internal failure in the Writer. Correct this by closing the application and restarting the Writer.
3044	Error sending command to get remaining film.	The command to get the remaining film could not be successfully sent to the Writer. This is caused by a failure of the communication link with the Writer or by an internal failure in the Writer. Correct this by closing the application and restarting the Writer.

Code	Message	Description
3045	Error sending command to get the film status.	The command to get the film status could not be successfully sent to the Writer. This is caused by a failure of the communication link with the Writer or by an internal failure in the Writer. Correct this by closing the application and restarting the Writer.
3046	Error sending command to get the film cassette data.	The command to get the cassette data could not be successfully sent to the Writer. This is caused by a failure of the communication link with the Writer or by an internal failure in the Writer. Correct this by closing the application and restarting the Writer.
3047	Error sending command to set the diagnostic port.	The command to set the diagnostic port could not be successfully sent to the Writer. This is caused by a failure of the communication link with the Writer or by an internal failure in the Writer. Correct this by closing the application and restarting the Writer.
3048	Error sending command to set the status monitor port.	The command to set the status monitor port could not be successfully sent to the Writer. This is caused by a failure of the communication link with the Writer or by an internal failure in the Writer. Correct this by closing the application and restarting the Writer.
3049	Error sending command to set the image writing parameters.	The command to set the image writing parameters could not be successfully sent to the Writer. This is caused by a failure of the communication link with the Writer or by an internal failure in the Writer. Correct this by closing the application and restarting the Writer.
3050	Error sending command to set the disk emulation.	This is caused by a failure of the communication link with the Writer or by an internal failure in the Writer. Correct this by closing the application and restarting the Writer.
3051	Error sending command to set the date and time in the Writer.	The command to set the internal date and time could not be successfully sent to the Writer. This is caused by a failure of the communication link with the Writer or by an internal failure in the Writer. Correct this by closing the application and restarting the Writer.
3052	Error sending command to set the frame annotation.	The command to set the frame annotation could not be successfully sent to the Writer. This is caused by a failure of the communication link with the Writer or by an internal failure in the Writer. Correct this by closing the application and restarting the Writer.
3053	Error getting command 42, get frame annotation.	The response file for the command to get the frame annotation does not contain a valid response. This is caused by a failure of the communication link with the Writer or by an internal failure in the Writer. Correct this by closing the application and restarting the Writer.
3054	Error getting command 19, get system command.	The response file for the command to get the Writer system parameters does not contain a valid response. This is caused by a failure of the communication link with the Writer or by an internal failure in the Writer. Correct this by closing the application and restarting the Writer.

Code	Message	Description
3055	Error getting command 4, get leader length.	The response file for the command to get the leader length does not contain a valid response. This is caused by a failure of the communication link with the Writer or by an internal failure in the Writer. Correct this by closing the application and restarting the Writer.
3056	Error getting command 11, get image frame.	The response file for the command to get the next image frame does not contain a valid response. This is caused by a failure of the communication link with the Writer or by an internal failure in the Writer. Correct this by closing the application and restarting the Writer.
3057	Error getting command 38, get IMC.	The response file for the command to get the IMC settings does not contain a valid response. This is caused by a failure of the communication link with the Writer or by an internal failure in the Writer. Correct this by closing the application and restarting the Writer.
3059	Error code returned when trying to issue a SetNextTransactionNumber command.	This is caused by a failure of the communication link with the Writer or by an internal failure in the Writer. Correct this by closing the application and restarting the Writer.
3064	Expected to get response for page %d of file %s; instead got page %d.	This is an internal diagnostic message.
3068	Error getting command 57, get power down interval.	Error using command 57, get power down interval. Reboot Writer.
3069	Error getting command 58, set power down interval.	Error using command 58, set power down interval. Reboot Writer.
3070	Error getting command 60, get interdocument gap.	Error using command 60, get interdocument gap.
3071	Error getting command 59, set interdocument gap.	Error using command 59, set interdocument gap.
3072	Error getting command 20, get version numbers.	Error using command 20, get version number.
3073	Error sending command 40, get online status.	Error using command 40, get online status.
3074	Error sending command to advance film.	Error sending command 1, advance film.
3075	Could not successfully read status file, %s.	Failed reading status file. Reboot Writer. Look for a 3-digit error in the log, such as an E916 error.
3078	Could not convert text file %s to a TIFF file.	Problem converting text file to TIFF.
3079	Using the 'NumCommands' value of %d found in registry for total # of simultaneous Application print commands.	Informational message. The application software is using a value in the system registry that has been entered by a System Administrator or Kodak representative for purposes of performance enhancement. This value sets the number of simultaneous print commands that can be active.
3080	The 'NumCommands' value found in registry (%d) is either zero or exceeds system maximum of %d. Setting to system default of %d.	Warning message to indicate to System Administrator or Kodak representative that an invalid value has been entered into the system registry. This value is intended to enhance performance, but will not be used because it is outside of the allowable limits. System will use a default value instead of the illegal value found in the registry.

Code	Message	Description
3081	Using the 'NumFiles' value of %d found in registry for max number of image files per Application print command.	Informational message. The application software is using a value in the system registry that has been entered by a System Administrator or Kodak representative for purposes of performance enhancement. This value sets the maximum number of image files that can be sent in a single print command.
3082	The 'NumFiles' value found in registry (%d) fis either zero or exceeds system maximum of %d. Setting to system default of %d.	Informational message. The application software is using a value in the system registry that has been entered by a System Administrator or Kodak representative for purposes of performance enhancement. This value sets the maximum number of image files that can be sent in a single print command.
3083	The 'NumCommands' value (%d) multiplied by the 'NumFiles' value (%d) exceeds the system limit of %d. Using default values of %d and %d.	Warning message to indicate to System Administrator or Kodak representative that although valid NumCommands and/or NumFiles value(s) have been entered into the system registry, the two values together produce an invalid result. These values are intended to enhance performance, but will not be used because their product is outside of the allowable system limit. System will use default values for both fields.
3084	Setting number of simultaneous print commands to %d; max number of image files per command to %d.	Informational message indicating what ‘total print commands’ and ‘max image files per command’ values the application software will use.
3085	Unable to retrieve Application installation directory from registry. Debugging has been disabled.	Application installation directory is not in the registry.
3087	While forming a command, had to insert a print remaining command after file %s.	Moved Writer back to A channel when uneven amount of images is present for duplex film.
3090	The ‘FileWaitTime’ value found in registry (%lu) is invalid. Setting to system default of %ul.	The value in the registry is invalid. Using the default values.
3091	Using the ‘FileWaitTime’ value of %ul found in the registry.	Informational message only.
3092	The ‘TransactionTimeout’ value found in the register (%lu) is invalid. Setting to system default of %ul.	The value in the registry is invalid. Using the default values.
3093	Using the ‘TransactionTimeout’ value of (%ul) found in the registry.	Informational message only.
3094	The ‘Max File Retry Count’ value found in the registry (%lu) is invalid. Setting to system default of %ul.	The value in the registry is invalid. Using the default values.
3095	Using the ‘Max File Retry Count’ value of %lu found in the registry.	Informational message only.
3096	Error getting command 79, get file transfer interval.	Reboot the Writer.
3097	Error setting command 78, set file transfer interval.	Reboot the Writer.

Code	Message	Description
4001	Not enough film on roll.	There is not enough film on the roll to write the images. Correct this by increasing the amount of unexposed film in the cassette.
4008	Can't remove files from the Writer with flush command (58). Need to reboot to proceed.	See preceding error messages for root cause of problem. A communication failure has occurred which prevents Command 58 from deleting files from the Writer directories. **Possible solutions:** • Replace the battery in the cassette. • In the Performance setting in the System Settings under **Administration**, use the following settings: File Retry Delay = 2 File Retry Count = 40 Number of Commands = 4 Number of Files = 4 Transaction Timeout = 300 • Close the application and restart the Writer.
5000	End of Image Writing.	This is a normal, successful condition.
5001	List file not found: %s.	The List file supplied by the application cannot be found. Correct this problem by specifying a valid List file.
5002	No more images in list.	Informational message.
5006	No images found in image list or image directory.	The application has specified a directory (in Batch mode) or a List file (in List mode) that contains no images to be written.
5007	No images found in Cover Page directory.	The application has specified a directory for cover (header) pages to be written which contains no images.
5008	No images found in Trailer Page directory.	The application has specified a directory for trailer pages to be written which contains no images.
5009	No images found in Image List File or in Image Directory.	The application has specified a directory (in Batch mode) or a List file (in List mode) that contains no images to be written.
5012	Inconsistency between Image Address Field Widths and/or Offset Addressing and/or selected filming Level.	
5018	SetCurrentFile, file at %d position in file list is %s; file expected at this position was %s.	This error will be posted if a List file is altered and a job restart is attempted. List files must not change for restarts. Images can be replaced if needed to correct the error.
5019	One or more images in file %s exceeds max file size for archive writer in simplex mode of %d bytes; total file size is %d bytes.	File too large for Writer in simplex mode. Possible causes: • Grayscale images may be present in Begin Roll processing directory. • Application defined as single-page given multi-page input.

Code	Message	Description
5020	One or more images in file %s exceeds max file size for Archive Writer in duplex mode of %d bytes; total file size is %d bytes.	File too large for Writer in duplex mode. The i9600 Writers have a limit of about 4 meg per image in duplex mode and the DAW 4800 Writers have a limit of about 0.6 meg per image in duplex mode. **Possible solutions:** • Reduce the size of the individual image file that is too large. • Run the job in simplex mode • If using a DAW 4800 Writer, a memory upgrade can be purchased by contacting your Field Engineer.
5021	Memory reallocation error.	There is not enough memory to perform the current operation. This can be corrected by adding more memory to the computer, by specifying a larger page file size in Windows setup, by reducing the size of the image List file or by reducing the number of images in the batch directories.
5022	Image file not found: %s.	
5023	Error resetting file list.	The file specified by the application cannot be found in the List file (in List mode) or in the image directory (in Batch mode). This problem is corrected by verifying the List file or batch input directories contain the file specified by the application.
5027	No index page directory specified.	The application did not supply a path in the JobPath parameter for creating index pages. This is an internal programming error.
5028	No Writer path specified.	The application did not supply a valid Writer path. This is an internal programming error.
5029	Cannot open image log file: %s.	The image log file cannot be opened. This may be caused by insufficient hard disk space.
5030	Cannot write to image log file: %s.	The image log file cannot be written to. This may be caused by insufficient hard disk space.
5031	Cannot write to transfer file:%s.	The transfer file cannot be written to. This may be caused by insufficient hard disk space.
5032	Cannot allocate memory.	There is not enough memory to perform the current operation. This can be corrected by adding more memory to the computer, by specifying a larger page file size in Windows setup, by reducing the size of the image List file or by reducing the number of images in the batch directories.
5034	Error found in response file for file %s (page %d). Got Writer Error number %d.	An error has been detected in the response file for the filename specified. This may be caused by an internal error in the Writer. The interpretation of the error code should appear in the error log following this error. NOTE: If this message is posted by the Input Processor, it is not an error but is a warning message that an extra TIFF Tag has been found in the image and will be ignored.
5035	%s is not a valid Digital Archive Writer path - the %s directory is missing.	The specified Writer path does not appear to be valid because the specified directory is missing. Correct this by closing the application and restarting the Writer.
5036	Cannot communicate with Writer (failed to set next transaction number).	Correct this by closing the application and restarting the Writer.

Code	Message	Description
5038	Not enough space on your hard disk. You need at least 5MB of free space.	You need at least 5MB of free space. Your hard disk does not have enough space for the application software to perform its normal operations. Correct this problem by increasing your free disk space.
5039	Archive Writer cannot be reset to continue processing. Please reboot the Writer.	The command to reset the Writer has failed. Close the application and restart the Writer.
5040	Film template requires two cassettes in Writer.	
5041	A cassette needs to be loaded into the Archive Writer.	There are no cassettes in the Writer. If you do have a cassette in the Writer, some kind of mechanical or electrical problem in the Writer has failed to detect the presence of the cassette.
5042	Cannot proceed until the Archive Writer is put in Online mode.	The Writer is currently set to Offline. Correct this by using the front panel buttons on the Writer to set the mode to Online.
5043	Writer in recoverable error state. Fix error above and restart.	This is an informational message indicating that the Writer may be restarted from the current error condition.
5045	Writer error has occurred.	Check previous error messages in error log file.
5046	The image address provided must have a “0” value for the Level 1 part of the image address.	Check addressing setup in the film template.
5048	Line %d of List file %s contains %d dashes preceding the filename; maximum number of dashes allowed is %d.	The application software encountered a line in the List file where there was more than the allowed number of dash characters preceding the file name. Each dash on a line indicates the file is to be indexed one level lower than the index level specified for the job. For a 2-level job, the maximum number of dashes on a line is two; for a 1-level job, it is one. For example, in a 2-level job, two dashes in a List file line entry would cause the file to be indexed at level zero (two level minus two dashes equals zero). Note that only the first line on which the violation was found is flagged here; the user should check the entire List file to ensure that all lines are correct. Change the List file to meet the file specification requirements.
5049	Film template requires the upper cassette to be loaded into the archive Writer.	Put upper cassette in the Writer.
5050	Film template requires the lower cassette to be loaded into the archive Writer.	Put lower cassette in the Writer.

Code	Message	Description
5051	Upper cassette battery needs to be replaced.	Replace upper cassette battery.
5052	Lower cassette battery needs to be replaced.	Replace lower cassette battery.
5053	Upper cassette improperly inserted.	The upper cassette is installed incorrectly. Remove the cassette and install it properly.
5054	Lower cassette improperly inserted.	The lower cassette is installed incorrectly. Remove the cassette and install it properly.
5055	Cassette access door is open.	Cassette access door is open.
5056	Cassettes are on different sides. Please insert matching cassettes.	
5057	Unable to load language files on Writer.	Failed to load language files on the Writer. Reboot Writer.
5058	Unable to access registry.	Failed to access registry. Check registry entry.
5059	The controller version number on the archive Writer is %s. A version of %s or greater is needed to run with the application software.	Check the version numbers of the application software and the Writer and report the differences to Service.
5060	Bad ASCII character in text file %s.	Check ASCII file. Character not in character set 0-255.
5061	Line too long in text file %s.	Check ASCII file. The line is greater than 80 characters.
5062	Too many lines in text file %s.	Check ASCII file. There are more than 66 lines.
5065	The first line in List file %s must be specified to be indexed either at level %d or at level zero.	The first file specified in a List file must be indexed either at the job level or as a level zero image. In the List file specified in the error message, the first line contained a single dash, indicating the first file in a two-level job was to be indexed at level 1. This is not legal. If the List file is really a continuation of a previous job, the List file must be broken apart on document boundaries. Fix the List file such that the first line in it has no dashes.
5066	Unable to open or read file %s to interrogate TIFF tags. Please check that file is present and is a valid TIFF file.	Check that file is present and is a valid TIFF file.
5067	An archive Writer is not mapped to drive %s.	Returned from Initialize if FindFirstFile call returns nonexistent path for the ArchiveWriterPath provided. This differentiates from 5035 where the drive provided is not an Writer, but it exists.
5068	Standalone AWOLArchiveWriter class method called with bad list type value: %d.	
5069	Image is too wide for the image frame.	The reduction ratio that was specified in the Job Type as not large enough to allow the image to fit across the width of the film and Exception Scaling was not enabled. **Possible solutions:** • Enable the **Exception Scale** option on Media tab of the Advanced Job Type Settings dialog box in the i9600 Application Software so that all too large images will automatically be reduced to fit across the width of the film. • Increase the reduction ratio in the Job Type.

Code	Message	Description
6000	Sending command to get remaining film.	This is an internal diagnostic message.
6001	Application told us to terminate.	This is an internal diagnostic message.
6004	Opening transfer file and image data file.	This is an internal diagnostic message.
6005	Sending a group of images.	This is an internal diagnostic message.
6008	Write Images Method: %s.	This is an internal diagnostic message.
6009	Exiting WriteImages with return code %d.	This is an internal diagnostic message.
6009	Exiting WriteImages with return code %d.	This is an internal diagnostic message.
7000	Writer is idle.	
7010	Invalid restart mode.	Not a valid restart mode.
8000	No user exit DLL found “AWOLEXIT.DLL”.	No user exit named AWOLEXIT.DLL found in the Window’s system directory.
8001	User exit %s not found.	User exit name not found in AWOLEXIT.DLL.
8002	Error in user exit %s.	Error in user exit. Check text returned from user exit.

Writer errors

The chart below defines Writer error numbers, the corresponding error messages, and an explanation of what each error signifies.

Code	Message	Description
103	FD Cassette Access Door Closed	The cassette access door was closed.
200	FD End Of Roll Warning	The film remaining in the upper cassette is equal to or less than 3 feet.
201	FD Ten Foot Warning	The film remaining in the upper cassette is equal to or less than 10 feet.
202	FD Fifteen Foot Warning	The film remaining in the upper cassette is equal to or less than 15 feet.
203	FD Film Breakage Upper Cassette	The film drive servo reported a loss of motion on the upper cassette’s film encoder. Either the cassette is out of film or it is a hardware error.
204	FD Film Breakage Lower Cassette	The film drive servo reported a loss of motion on the lower cassette's film encoder. Either the cassette is out of film or it is a hardware error.
205	FD Out Of Film Upper Cassette	The film remaining in the upper cassette is equal to or less than 5 feet.
206	FD Out Of Film Lower Cassette	The film remaining in the lower cassette is equal to or less than 5 feet.
207	FD Low Battery Upper Cassette	The battery in the upper cassette is low.
208	FD Low Battery Lower Cassette	The battery in the lower cassette is low.
209	FD Loss Of Comm Upper Cassette	The battery in the upper cassette is dead or there is a hardware problem.
210	FD Loss Of Comm Lower Cassette	The battery in the lower cassette is dead or there is a hardware problem.
211	FD Cassette Access Door Open	The cassette access door was opened.
212	FD Upper Cassette Inserted Improperly	The upper cassette was inserted improperly.
213	FD Lower Cassette Inserted Improperly	The lower cassette was inserted improperly.
214	FD Invalid Num Cassettes	Configuring the number of cassettes required with an invalid number.
215	FD CP Invalid Fixed Length	Configuring the fixed length advance with an invalid length.
216	CD CP Invalid Message Data	Command Processor: error in message data invalid data was passed with a command.
217	CD CP Unknown Request	Command Processor: invalid command received.
218	FD CP Proc Illegal FDS Cmd	Unknown film drive request.
219	FD CP Invalid Leader Length	Advancing film or setting the leader length with an invalid amount.
220	FD CP Invalid Tension Length	Setting the tension length with an invalid amount.
221	FD Cassette Film lengths Differ	The film amounts between the upper and lower cassettes differ by more than 6 feet.
222	FD Cassette Image Address Differ	The image addresses in the upper and lower cassettes differ.

Code	Message	Description
223	FD Cassette Roll Numbers Differ	The roll numbers in the upper and lower cassettes differ.
224	FD Cassette Sides Differ U1 L2	The upper cassette is on Side 1 and lower cassette is on Side 2.
225	FD Cassette Sides Differ U2 L1	The upper cassette is on Side 2 and lower cassette is on Side 1.
226	FD End Of Roll Warning Duo Side A	The end of a roll for duo Side A has been reached.
227	FD End Of Roll Warning Duo Side B	The end of a roll for duo Side B has been reached.
228	FD Upper Cassette Not Present	The system is configured for two cassettes and the upper cassette is not present or the system is configured for one cassette and both cassettes are not present.
229	FD Lower Cassette Not Present	The system is configured for two cassettes and the lower cassette is not present or the system is configured for one cassette and both cassettes are not present.
230	EH WRIB Kvalue Too Big	WRIB error: PM2 K value too big.
231	EH WRIB Cannot Process Tiled Image	WRIB error: Cannot process tiled images.
232	EH WRIB Cannot Process G4 Multi-strip Image	WRIB error: Cannot process Group 4 multi-strip images.
233	FD Invalid Roll Number	An invalid roll number was entered. Either it was non-numeric or it was too long.
234	FD Invalid Job Number	An invalid job number was entered. Either it was non-numeric or it was too long.
235	EH IO Image Log Filename Invalid	
236	CC II File Opening Error	There was a problem with the image file processing in the Writer. This problem is often corrected by running images through the Input Processor with the **Convert to Writer** option enabled before archiving the images. Also ensure that you have Archive Writer Controller Firmware version 4.0.16 or higher.
237	CC II File Read Error	There was a problem with the image file processing in the Writer. This problem is often corrected by running images through the Input Processor with the **Convert to Writer** option enabled before archiving the images. Also ensure that you have Archive Writer Controller Firmware version 4.0.16 or higher.
238	EH IC Invalid Image Origin	Image Composition invalid image X, Y origin.
239	EH IC Invalid Image Scaling	Image Composition invalid image scaling.
240	EH IC Image Too Long	Image Composition of the scaled image is too long. The reduction ratio that was specified in the Job Type was not large enough to allow the image to fit within the maximum length of the image frame and Exception Scaling was not enabled. **Possible solutions**: • Enable the **Exception Scale** option of the i9600 Application Software so that all ‘too large’ images will automatically be reduced to fit across the film. • Increase the reduction ratio in the Job Type.

Code	Message	Description
241	EH IC Image Too Wide	Image Composition of the scaled image is too wide for frame. The reduction ratio that was specified in the Job Type was not large enough to allow the image to fit within the maximum width of the image frame and Exception Scaling was not enabled. **Possible solutions**: • Enable the **Exception Scale** option of the i9600 Application Software so that all 'too large' images will automatically be reduced to fit across the film. • Increase the reduction ratio in the Job Type.
242	EH IC Invalid Image Limits	Image Composition invalid image frame limits.
243	EH IC Invalid Image Orientation	Image Composition invalid image orientation.
244	EH IC Invalid Image Polarity	Image Composition invalid image polarity.
245	EH IC Invalid Image Resolution	Image Composition invalid image resolution.
246	EH IC Invalid Scaling Factor	Image Composition invalid image scaling factor.
247	EH DOS Disk Semaphore File Open Failed	This is a Writer internal error.
248	EH DOS Disk Init Transaction Failed	Could not instantiate a command given a semaphore file's contents. **Possible solutions:** • Replace the battery in the cassettes. • Run the images through the Input Processor with the **Convert to Writer** option enabled before sending the images to the Writer. • In the Performance setting in the System Settings under **Administration**, use the following settings: File Retry Delay = 2 File Retry Count = 40 Number of Commands = 4 Number of Files = 4 Transaction Timeout = 300
249	EH DOS Disk Failed to Read Semaphore File	This is a Writer internal error.
250	EH DOS Disk Command File Open Failed	Cannot open the host application interface manager's command file that was written.
251	EH DOS Disk Invalid Command Id	Command ID for a command is not one of the supported command IDs.

Code	Message	Description
252	EH DOS Disk Command Parameters Invalid	Parameters not valid for a command (e.g. wrong parameter IDs). **Possible solutions:** • Replace the battery in the cassettes. • Run the images through the Input Processor with the **Convert to Writer** option enabled before sending the images to the Writer. • In the Performance setting in the System Settings under **Administration**, use the following settings: File Retry Delay = 2 File Retry Count = 40 Number of Commands = 4 Number of Files = 4 Transaction Timeout = 300 • Check that there are no input files that have a 0 length.
253	EH DOS Disk No Command Id	No command ID contained in the command file.
254	IA Invalid Format	There is a problem with the Job Type.
255	IA Invalid Data	Invalid image address data.
256	IA Field Overflow	Image address field overflow. Need to increase size of field for image address within the Job Type definition for this application. For example, if you have a batch Job Type with document-level grouping (2-level indexing) that has the second level Image Address field width set to 2 and you attempt to run a job that has more than 99 folders in the input directory, you will receive an error because the second level image address will be incremented to 100 which is greater than 2 characters in length.
257	IA Format Width	Image address field too wide.
258	IA Format Length	Image address length too long.
259	IA Format Definition	Incompatible image address format. There may be an alpha character in a non-fixed field in the image address.
260	IA Format Number	Invalid number of address fields.
261	IA Non-sequential Address	This is a warning message. The starting image address provided for the job is not sequential to the address read from the cassette.
262	Ls Language File Read Error	An error occurred while loading a language file.
263	PD Invalid Power-down Interval	Invalid power down interval was entered.
264	ST Invalid Time Format	The time parameter entered was in an incompatible format.
265	ST Invalid Date Format	The date parameter entered was in an incompatible format.
266	CD CP Command Not Allowed Off Line	A command was received from the host that is not valid in the off-line mode.
267	CD CP Command Not Allowed With Critical Error Condition	A command was received after the Writer reported a critical error but before the warning was corrected.
268	CD CP Command Not Allowed With Recoverable Error Condition	A command was received after the reported correctable error but before the warning was corrected.
269	CD CP Command Not Allowed With Warning Error Condition	A command was received after the Writer reported a warning but before the warning was corrected.
270	IC No File Specified	No image file was specified in the print image command. Specify an image file with the print image command.

Code	Message	Description
271	EH IO Image Log Size Exceeded	The image log file is at its maximum size. Rename the log file; remove the old log file.
272	EH NET Cant Add Host	Could not add a host to the Host table that exists. Check the command file being used for Set Network Specification and make sure it contains a valid host name and host IP address.
273	FD Verify Film Upper Cassette	This error can occur if the NV RAM in film cassette is reinitialized or if film cassette is left too long with a battery in it. To resolve this, run a small job through the application software which will reinitialize the cassette's memory. A cassette is inserted in a film bay of the Writer that has not been previously used in an Archive Writer. It is possible that the cassette is an IL30/70 cassette. Verify the cassette inserted in the upper film bay is the proper cassette.
274	FD Verify Film Lower Cassette	A cassette is inserted in the lower film bay of the Writer that has not been previously used in an Writer. It is possible that the cassette is an IL30/70 cassette. Verify the cassette inserted in the lower film bay is the proper cassette.
276	CC II IMC Required Before Printing	The host is attempting to print a job with IMC enabled before sending the Writer IMC parameters and 'make IMC' command. Command the Writer to write IMC via the host application.
277	EH IC Type Invalid	An invalid film format was received from the host. Simplex or duplex should be specified.
278	EH IC Scaling Invalid	An invalid image scaling value was received from the host.
279	EH IC Origin Invalid	An invalid image origin was received from the host.
280	IA Invalid Level	An attempt to set the image level to an invalid value occurred. The value must be between 1 and x. Where x is the number of image levels used.
290	EH FT Transfer Timed Out	Failed to receive data packet before watchdog timed out.
298	FD 5 Meter Warning	The film remaining in the upper cassette is equal to or less than 5 meters.
299	FD 3 Meter Warning	The film remaining in the upper cassette is equal to or less than 3 meters.
300	CD CP Command Substitution Error	Command Decoder: command being over-written. Call Service.
301	CD CP Initialization Error	Command Processor: initialization error. Call Service.
302	CD CP MsgQ Receive Error	Command Processor: error getting message from queue. Call Service.
303	CD CP MsgQ Time Out Error	Timeout occurred waiting for message from queue. Call Service.
304	CD CP Invalid MsgQ Return Code	Unknown return code received for messageGet. Call Service.
305	CD CP Executing Uninitialized Command	Command Processor: command function not initialized. Call Service.
306	CD CP Error Checking Uninitialized	Command Processor: error checking function not initialized. Call Service.
307	CD CP Command Element Init Invalid Index	Index is not within the list of functions. Call Service.
308	CD CP Invalid Param Components Length	Command parameter length exceeds CD message size. Call Service.
309	FD Msg Init Data Length Error	Initializing a film drive message with data longer than the buffer size. Call Service.

Code	Message	Description
311	FD Cassette Data Release Failed	Cassette data semaphore. Give failed. Call Service.
312	FD Cassette Data Illegal Cassette Id	Cassette index is out of range. Call Service.
313	FD Cassette Status Reservation Failed	Cassette status semaphore. Take failed. Call Service.
314	FD Cassette Status Release Failed	Cassette status semaphore. Give failed. Call Service.
315	FD Cassette Status Illegal Cassette Id	Cassette index out of range. Call Service.
316	FD Message Send Error	Error sending to message queue. Ensure that the Archive Writer firmware controller version is 4.0.16 or higher.
317	FD CP Initialization Error	Film Drive Command Processor Task initialization error. Call Service.
318	FD CP MsgQ Receive Error	Film Drive Command Processor error getting message from queue. Call Service.

319	FD CP Cmd Time Out Error	Command response timer timed-out indicating that there was a problem with the film drive in the Writer.
		Possible solutions:
		• Replace the battery in the cassettes.
		• Ensure that the door of the Writer is closing properly.
		  • Hardware problem with:
		  • door interlock switch
		  • cassette interface board
		  • Port #2 connector on the 100 board
		  • 100 or 1700
		• Call Service.

320	FD CP Illegal FD State Error	Film Drive Command Processor is in an illegal state. Call Service.
321	FD CP MsqQ Send Error	This is an internal Writer error. Call Service.
322	FD CP Invalid MsgQ Return Code	Application Message Queue message. Get returned an invalid status. Call Service.
323	FD CP Cmd Check Array Full	No room in the queue for the current command's response parameters (command ID; requesters ID; response required; and response timeout). Call Service.
324	Received Invalid Message From FDS.	The command terminator received does not match one of the valid commands in the film drive. The memory of the cassette may be corrupted. Remove the battery from the cassette for 24 hours or reset the memory on the cassette board.
325	FD RH Receive Buffer Overrun	The film drive servo sent a message longer than the embedded controller's receive buffer. Call Service.
326	Film Drive Serial Port Read Error	Embedded Controller error reading a character from the serial port. Call Service.
327	FD RH MsgQ Send Error	Film Drive Response Handler task reported an error sending a message to a message queue. Call Service.
328	EH WRIB DOS Reserve Failed	WRIB error: DOS reserve failed. Call Service.
329	EH WRIB DOS Release Failed	WRIB error: DOS release failed. Call Service.
330	EH WRIB File Read Error	WRIB error: DOS file read error. Call Service.
331	EH WRIB Unknown Decompress Unblock	WRIB error: Unknown semaphore unblock reason. There is a problem with an image file. Run the images through the Input Processor with the **Convert to Writer** option enabled before sending the images to the Writer.

Code	Message	Description
332	EH WRIB Memory Reservation Failed	WRIB error: memory semaphore take. Call Service.
333	EH WRIB Memory Release Failed	WRIB error: memory semaphore give. Call Service.
334	EH WRIB Ram Frame Malloc Failure	WRIB error: RAM memory malloc failure. Call Service.
335	EH WRIB Max Images Per Frame Exceeded	WRIB frame failure: maximum images per frame exceeded. Call Service.
336	EH WRIB Frame Malloc Failure	WRIB error: memory malloc failure.
337	EH WRIB Invalid Image Index	WRIB error: image index invalid.
338	EH WRIB Frame Not Found In WRIB Memory	WRIB memory warning: frame to delete not found.
339	EH IO MsgQ Length Too Small	Image Output message queue length too small.
340	EH IO Invalid Post Print Command	This is an internal Writer error. Call Service.
341	EH IO Image Log Open Error	Image Output log open failure, file could not be opened. Call Service.
342	EH IO Image Log Close Error	Image Output log close failure, file could not be closed. Call Service.
343	EH IO Image Log Write Error	Image Output log write failure, write error. Call Service.
344	EH IO Initialization Error	Image Output initialization error. Call Service.
345	EH IO MsgQ Send Error	Image Output message queue send error. Call Service.
346	EH IO MsgQ Receive Error	Image Output message queue receive error. Call Service.
347	EH IO MsgQ Time Out Error	Image Output message queue timeout error. Call Service.
348	EH IO Invalid MsgQ Return Code	Image Output invalid message queue return value. Call Service.
349	EH IO MsqQ Length Too Small	This is an internal Writer error. Call Service.
350	EH IO Log Open Error	This is an internal Writer error. Call Service.
351	EH IO Log Close Error	This is an internal Writer error. Call Service.
352	EH IOLog Write Error	This is an internal Writer error. Call Service.
353	EH IO IA String Too Long	Image Output frame image address string is too long. Reduce the length of the image address in the Job Type.
354	EH IO Filename Too Long	Image Output frame image filename string is too long. Call Service.
355	EH IO Too Many Image Files	Image Output frame contains too many image files. Call Service.
356	EH IO Frame message Retrieve Index	Image Output invalid frame message index. Call Service.
357	CC II Memory Allocation Error	Image Input: memory allocation failure. Call Service.
358	CC II Disk Reserve Error	Disk reserve semaphore take error. Call Service.
359	EH IC MsgQ Send Error	Image Composition message queue send error. Call Service.
360	EH IC Initialization Error	Image Composition initialization failure. Call Service.
361	EH IC MsgQ Receive Error	Image Composition message queue receive error. Call Service.
362	EH IC MsgQ Time Out Error	Image Composition message queue time-out error. Call Service.
363	EH IC Invalid MsgQ Return Code	Image Composition invalid message queue return code. Call Service.
364	EH IC Unknown Message Command	Image Composition unknown message command. Call Service.
365	EH IC MsgQ Length Too Small	Image Composition message queue length too small.Call Service.

Code	Message	Description
366	EH IC Unknown Scaling Type	Image Composition unknown image scaling type. Call Service.
367	EH IC Overlapping Frame Images	Image Composition overlapping images in frame. Call Service.
368	EH IC DOS Reserve Failed	Image Composition DOS reserve failed. Call Service.
369	EH IC DOS Release Failed	Image Composition DOS release failed. Call Service.
370	EH IC File Delete Error	Image Composition image file delete error. Call Service.
371	EH IC Too Many Frame Pointers	This is an internal Writer error. Call Service.
372	EH IC Too Many Images In Frame	Image Composition has too many images in the frame. Call Service.
373	EH IC Trying To Insert Too Many Images Into Frame	Image Composition trying to insert too many images into frame. Call Service.
374	EH IC Invalid Blip Request	Image Composition invalid blip type. Call Service.
375	EH IC Memory Allocation Error	Image Composition memory allocation error. Call Service.
376	EH IC Invalid Blip Level	Image Composition invalid blip index level. Call Service.
377	EH IC Invalid Command Parameter	This is an internal Writer error. Call Service.
378	EH IC Unknown Message Command	This is an internal Writer error. Call Service.
379	EH DOS Disk Message Received No Transaction Active	Host application interface manager received a response from the Writer when a command was not being processed. Call Service.
380	EH DOS Disk Error In Retrieving Message	Host application interface manager error is receiving message from queue. Call Service.
381	EH DOS Disk Response Not Received In Time	Host application interface manager error is not receiving response from system to a command within a specified period of time. Call Service.
382	EH DOS Disk Invalid MsgQ Return Code	Host application interface manager unknown status in receiving from message queue. Call Service.
383	EH DOS Disk Failed To Create Directories	Cannot create the DOS file system directories. Call Service.
384	EH DOS Disk Failed To Create Disk	Cannot reserve the DOS file system. Call Service.
385	EH DOS Disk Message Send Failed	This is an internal Writer error. Call Service.
386	EH DOS Disk Disk Reservation Failed	Cannot reserve the DOS file system; cannot take semaphore protecting the file system. Call Service.
387	EH DOS Disk Disk Release Failed	Cannot release the DOS file system; cannot give semaphore protecting the file system. Call Service.
388	EH SCSI Invalid Script Inst Int	Invalid instruction reported from SCSI I/O controller. Call Service.
389	EH SCSI Invalid Script Entry Calculated	Internal programming error; could not determine what instruction the SCSI I/O controller should execute next. Call Service.
390	EH SCSI Message Receive Error	SCSI target driver error in receiving message from queue. Call Service.
391	EH SCSI Invalid Script Entry Requested	Internal programming error; determined an instruction for the SCSI I/O controller to execute that is not a valid instruction. Call Service.

Code	Message	Description
392	EH SCSI Invalid Script Inst Int Read	Invalid SCSI I/O processor instruction reported from the I/O processor. Call Service.
393	IA Sem Take Failed	This is an internal Writer error. Call Service.
394	EH Error Index Out Of Range	Error handler index out of range. Call Service.
395	IA Sem Take Failed	This is an internal Writer error. Call Service
396	EH Negative Index	Cannot process negative index. Call Service.
397	IA Sem Take Failed	Error entering IA critical region. Call Service.
398	IA Sem Give Failed	Error exiting IA critical region. Call Service.
399	IA Mem Alloc Failed	Unable to allocate memory for IA field. Call Service.
400	EH System Startup Failed	This is an internal Writer error. Call Service
401	EH Sys Config File Release Failed	This is an internal Writer error. Call Service
402	EH Sys Config File Reserve Failed	This is an internal Writer error. Call Service
403	CD MsgQ Send Error	Error sending to message queue. Ensure that the Writer Firmware controller version is 4.0.26 or higher.
404	CD Msg Data Length Error	Messaged data is longer than the message buffer size. Call Service.
405	EH Memory Unavailable	This is an internal Writer error. Call Service.
406	SCSI Error	This is an internal Writer error. Call Service.
407	SCSI Memory Full	This is an internal Writer error. Call Service.
413	CC IMC Blip Fail	This is an internal Writer error. Call Service.
414	CC IMC Annotate Fail	This is an internal Writer error. Call Service.
415	OI MsgQ Send Error	Error sending message to queue. Call Service.
416	OI Msg Data Length Error	This is an internal Writer error. Call Service.
417	OI Window Invalid Index	Window index is larger than the number of declared windows. Call Service.
418	OI State Invalid State	Key state received is larger than the number of declared states. The hard drive on the host computer may be full.
419	OI State Invalid Key	Key index received is larger than the number of declared keys. Call Service.
420	OI MP Initialization Error	OI message processor initialization error. Call Service.
421	OI MP MsgQ Receive Error	OI message processor error getting message from queue. Call Service.
422	OI MP MsgQ Time Out Error	OI message processor timeout occurred waiting for message from queue. Call Service.
423	OI MP Invalid MsgQ Return Code	This is an internal Writer error. Call Service.
424	UI MsgQ Receive Error	UI send: error getting message from queue. Call Service.
425	UI MsgQ Time Out Error	UI send: timeout occurred waiting for message from queue. Call Service.
426	UI Invalid MsgQ Return Code	UI send: unknown return code received from messageGet. Call Service.
427	UI Send Time Out Error	UI send: timeout waiting for command response from the UI. This may be a problem with the communications between the 500 and 600 boards in the Writer. Call Service.

Code	Message	Description
428	UI MsgQ Send Error	Error sending message to queue. Call Service.
429	UI Receive Initialization Error	Receive task initialization error. Call Service.
430	UI Serial Port Read Error	Embedded controller error reading the UI serial port. Call Service.
431	UI Receive Invalid Key Code	Receive unknown key code from the user interface. Call Service.
432	CC OI Param Data1 Not Found	Parameter data not found in the message received. Call Service.
433	CC OI Param Data2 Not Found	Parameter data not found in the message received. Call Service.
434	CC OI Param Data3 Not Found	Parameter data not found in the message received. Call Service.
435	CC OI Param Data4 Not Found	Parameter data not found in the message received. Call Service.
436	CC OI Param Data5 Not Found	Parameter data not found in the message received. Call Service.
437	CC OI Param Data6 Not Found	Parameter data not found in the message received. Call Service.
438	EH Memory Malloc Error	Error log memory malloc failed. Call Service.
440	EH IO No File To Append Image Log Entry	This is an internal Writer error. Call Service.
441	EH System Startup Failed	This is an internal Writer error. Call Service.
442	EH Sys Config File Release Failed	This is an internal Writer error. Call Service.
443	EH Sys Config File Reserve Failed	This is an internal Writer error. Call Service.
444	EH Set Environment Failed	This is an internal Writer error. Call Service.
445	EH WRIB Invalid Operating Parameters	This is an internal Writer error. Call Service.
446	Invalid Exception	This is an internal Writer error. Call Service.
447	EH Net Cant Create NFS daemon	This is an internal Writer error. Call Service.
448	EH Net Cant Export File System	This is an internal Writer error. Call Service.
449	IC Memory Malloc Error Struct	The image parameter data structure could not be created. Call Service.
450	IC Memory Malloc Error Field	The image parameter data field could not be created. Call Service.
451	PD Sem Give Failure	Unable to give semaphore to indicate system activity. Call Service.
452	EH NET Cant Add Gateway	Could not add a gateway to the Gateway table that exists in the gateway destination list. Call Service.
453	EH NET Cant Create Nfsdaemon	Failure of nfsdInit within NetworkInitializationManager. Call Service.
454	EH NET Cant Export File system	Failure of nfsExport within NetworkInitializationManager. Call Service.
455	ST Unable To Read System Clock	The embedded firmware could not read/set the system clock. An error was returned from one of the system time/date routines. Call Service.
456	ST Unable To Set System Clock	The embedded firmware could not read/set the system clock. An error was returned from one of the system time/date routines. Call Service.
457	ST Unable To Set System Time	The embedded firmware could not read/set the system clock. An error was returned from one of the system time/date routines. Call Service.

Code	Message	Description
458	ST Unable To Set System Date	The embedded firmware could not read/set the system clock. An error was returned from one of the system time/date routines. Call Service.
459	Diagnostic Serial Port Read Error	Diagnostic serial port read error. Call Service.
460	LT MP Initialization Error	LT MP Initialization error. Call Service.
461	LT MP MsgQ Receive Error	LT MP MSGQ receive error. Call Service.
462	LT MP Invalid MsgQ Return Code	MP invalid MSGQ return error. Call Service.
463	LT App Data Recv Error	LT APP data receive error. Call Service.
464	LT App Data Recv Invalid MsgQ Return Code	LT APP data invalid MSGQ return code. Call Service.
465	LT MP Unknown Scc Request	LT MP unknown SCC request. Call Service.
466	LT MsgQ Send Error	LT MP MSGQ send error Call Service.
467	LT MP Cmd Time Out	LT MP CMD timeout. Call Service.
468	LT MP Unknown Scc Msg 55 Prog Num	LT MP unknown MSG 55 program number. Call Service.
469	LT MP Unknown Scc Msg 52 Data Type	LT MP unknown MSG 52 data type. Call Service.
470	EH Aim Reservation Failed	Unable to take AIM semaphore. Call Service.
471	EH Aim Release Failed	Unable to release AIM semaphore. Call Service.
472	EH DOS Disk Expected Priority Transaction	Writer is expecting a priority transaction and host sent normal transaction. Call Service.
473	EH Transaction Already Active	The host tried to initiate a command using a transaction number of a currently active transaction. May be posted with E248 or E709 errors. See these errors for more information.
474	EH Aimend Couldnt Signify Transaction Completion	Writer lost communication with host. Call Service.
475	EH NET Cant Initialize Gateways	Failure to add gateway to Gateway table. Call Service.
476	EH NET Cant Create Socket	Failure to create socket. Call Service.
477	EH NET Cant Accept Transactions	Failure to accept connection on the input or output socket. Call Service.
478	EH NET Cant Read In Socket	Failure to read from the input socket. Call Service.
479	EH NET Cant Write Out Socket	Failure to write to the output socket. Call Service.
480	EH II Too Many Image FDS	This is an internal Writer error. Call Service.
481	EH FT Cant Transfer File	This is an internal Writer error. Ensure that the Writer firmware controller version is 4.0.16 or higher.
700	EH WRIB Unexpected Pm2 Status Change	WRIB PM2 unexpected status. The Writer had a problem processing a TIFF file. **Possible solutions:** • Run the input images through the Input Processor with the **Convert to Writer** option enabled before sending images to the Writer.
701	EH WRIB Unexpected Image Decompression Done	WRIB unexpected Image Decompression Done. The Writer had a problem processing a TIFF file. **Possible solutions:** • Run the input images through the Input Processor with the **Convert to Writer** option enabled before sending images to the Writer.

Code	Message	Description
702	EH WRIB Unknown WRIB Interrupt	WRIB unknown interrupt. The Writer had a problem processing a TIFF file. **Possible solutions:** • Run the input images through the Input Processor with the **Convert to Writer** option enabled before sending images to the Writer. • Call Service - possible problem with the WRIB board.
703	EH WRIB Unexpected Image Print Error	WRIB unexpected Image Print Error. The Writer had a problem processing a TIFF file. **Possible solutions:** • Run the input images through the Input Processor with the **Convert to Writer** option enabled before sending images to the Writer. Call Service - possible problem with the WRIB board.
704	EH WRIB Unexpected Input FIFO Half Full	WRIB unexpected input FIFO half full. The Writer had a problem processing a TIFF file. **Possible solutions:** • Run the input images through the Input Processor with the **Convert to Writer** option enabled before sending images to the Writer. Call Service - possible problem with the WRIB board.
705	EH WRIB No Images In Frame	WRIB unexpected input FIFO half full. The Writer had a problem processing a TIFF file. **Possible solutions:** • Run the input images through the Input Processor with the **Convert to Writer** option enabled before sending images to the Writer. Call Service - possible problem with the WRIB board.
706	EH WRIB Memory Full Too Long	WRIB download failure. The Writer had a problem processing a TIFF file. **Possible solutions:** • Run the input images through the Input Processor with the **Convert to Writer** option enabled before sending images to the Writer. Call Service - possible problem with the WRIB board.
707	EH WRIB Frame Too Large	WRIB download failure: frame dimensions outside limits. The Writer had a problem processing a TIFF file. **Possible solutions:** • Run the input images through the Input Processor with the **Convert to Writer** option enabled before sending images to the Writer. • Call Service - possible problem with the WRIB board.
708	EH WRIB Unknown Memory Full Exception	WRIB error: invalid memory result. The Writer had a problem processing a TIFF file. **Possible solutions:** • Run the input images through the Input Processor with the **Convert to Writer** option enabled before sending images to the Writer. • Call Service - possible problem with the WRIB board.

Code	Message	Description
709	EH WRIB Download Unknown Status Change	WRIB error: unknown download status change. The Writer had a problem processing a TIFF file. **Possible solutions:** • Run the input images through the Input Processor with the **Convert to Writer** option enabled before sending images to the Writer. • Call Service - possible problem with the WRIB board.
710	EH WRIB Image Download Timeout	WRIB download failure: image download timeout. The Writer had a problem processing a TIFF file. **Possible solutions:** • Run the input images through the Input Processor with the **Convert to Writer** option enabled before sending images to the Writer. • Call Service - possible problem with the WRIB board.
711	EH WRIB Image Decompression Timeout	WRIB download failure: image decompression timeout. The Writer had a problem processing a TIFF file. **Possible solutions:** • Run the input images through the Input Processor with the **Convert to Writer** option enabled before sending images to the Writer. • Call Service - possible problem with the WRIB board.
712	EH WRIB Image Decompression Failure	WRIB download failure: image decompression failure. The Writer had a problem processing a TIFF file. **Possible solutions:** • Run the input images through the Input Processor with the **Convert to Writer** option enabled before sending images to the Writer. • Call Service - possible problem with the WRIB board.
713	EH WRIB FIFO Full Timeout	WRIB download failure: FIFO full timeout.The Writer had a problem processing a TIFF file. **Possible solutions:** • Run the input images through the Input Processor with the **Convert to Writer** option enabled before sending images to the Writer. • Call Service - possible problem with the WRIB board.
714	EH WRIB Pm2 Status Error	WRIB download failure: PM2 status error. The Writer had a problem processing a TIFF file. **Possible solutions:** • Run the input images through the Input Processor with the **Convert to Writer** option enabled before sending images to the Writer. • Call Service - possible problem with the WRIB board.
715	EH WRIB Unknown Decompress Exception	WRIB error: decompress exception. The Writer had a problem processing a TIFF file. **Possible solutions:** • Run the input images through the Input Processor with the **Convert to Writer** option enabled before sending images to the Writer. • Call Service - possible problem with the WRIB board.

Code	Message	Description
716	EH WRIB Unknown FIFO Exception	WRIB error: FIFO exception. The Writer had a problem processing a TIFF file. **Possible solutions:** • Run the input images through the Input Processor with the **Convert to Writer** option enabled before sending images to the Writer. • Call Service - possible problem with the WRIB board.
717	EH WRIB Unknown Retry Error	WRIB error: retry error. The Writer had a problem processing a TIFF file. **Possible solutions:** • Run the input images through the Input Processor with the **Convert to Writer** option enabled before sending images to the Writer. • Call Service - possible problem with the WRIB board.
718	EH WRIB Output Unknown Status Change	WRIB error: frame output unknown status change. The Writer had a problem processing a TIFF file. **Possible solutions:** • Run the input images through the Input Processor with the **Convert to Writer** option enabled before sending images to the Writer. • Call Service - possible problem with the WRIB board.
719	EH IO Frame Print Timeout	Image Output failure: frame printing timeout. The Writer had a problem processing a TIFF file. **Possible solutions:** • Run the input images through the Input Processor with the **Convert to Writer** option enabled before sending images to the Writer. • Call Service - possible problem with the WRIB board.
720	EH IO WRIB Print Error	Image Output failure: WRIB print error. The Writer had a problem processing a TIFF file. **Possible solutions:** • Run the input images through the Input Processor with the **Convert to Writer** option enabled before sending images to the Writer. • Call Service - possible problem with the WRIB board.
721	Id Invalid Film Remaining Flag	This is an internal Writer error. Call Service.
722	EH IC Annotation String Truncated	This is an internal Writer error. Call Service.
900	FD CP Comm Failure Error	This is an internal Writer error. Call Service.
901	FD Motor Failure	1700 board hardware or motor failure. The error is reported if any of the motor voltage; current; or speed signals. Call Service.
902	FD Invalid Command Received	Unknown or unimplemented command received by film drive servo from the embedded controller. Call Service.
903	FD Counter Oscillator Error	1700 board hardware failure. Call Service.
904	FD Aper Encoder Error	1700 board hardware failure. Call Service.
905	FD Freq Multiplier Error	1700 board hardware failure. Call Service.
906	FD Servo Feedback Encdr Err	1700 board hardware failure. Call Service.

Code	Message	Description
907	FD Servo Amplifier Error	Change the battery in the cassette. Motor hardware failure. Motor belt tension is too high. The drive fingers on the film drive coupler may be broken off. Drive pin may be broken, interlock failure. Call Service.
908	FD Micro Controller Error	1700 board hardware failure. Change the battery in the cassette. Call Service.
909	FD Aper Source Switch Error	1700 board hardware failure. Call Service.
910	FD Stop After Source Switch	1700 board hardware failure. Call Service.
911	FD Diag Switches On	The 1700 PCB's dip switch pack S2 switch 1 has been moved to the On position.
912	FD Upper Supply Ecndr Error	1700 board hardware failure. Call Service.
913	FD Lower Supply Ecndr Error	1700 board hardware failure. Call Service.
914	FD Freq Multiplier Error	1700 board hardware failure. Call Service.
915	FD Shutter Failed To Open	The shutter did not open within the specified time interval. Call Service.
916	FD Shutter Failed To Close	The shutter did not close within the specified time interval. Call Service.
917	FD Async Shutter Change	Unexpected change in the shutter position. Call Service.
918	FD Invalid M Value	An invalid motor speed setting was sent to the film drive servo.
919	FD Cassette Data Update Error	A cassette reported an error with the data sent by the film drive servo. The problem could be caused by a weak battery in the cassette or a dirty IR transmitter or receiver. Replace the cassette battery. If the problem persists, call Service.
920	FD Servo Reset	Either the Reset button was pressed, the film drive servo reset due to loss of power, or a hardware error occurred. Call Service.
921	Received Unknown Async Error From FDS	1700 board hardware/software error. Call Service.
922	EH DOS Disk Command File Close Failed	Cannot close command file. Call Service.
923	EH DOS Disk Status File Write Failed	Cannot write status file. Call Service.
924	EH DOS Disk Response File Write Failed	Cannot write response to a file. Call Service.
925	EH DOS Disk Command File Delete Failed	Cannot delete command file. Ensure that the Archive Writer controller firmware is version 4.0.16 or higher.
926	EH DOS Disk Semaphore File Delete Failed	Call Service.
927	EH SCSI Invalid Dma Status	Invalid status reported from SCSI I/O controller. Call Service.
928	EH SCSI Unknown Dma Status	Unknown status reported from SCSI I/O controller. Call Service.
929	EH SCSI Invalid SCSI Status	Invalid status reported from SCSI I/O controller. Call Service.
930	EH Aimstart MsgQ Retrieve Error	This is an internal Writer error. Call Service.
931	EH Aimstart MsgQ Send Error	Could not add a host to the Host table that exists on the boot line. Call Service.

Code	Message	Description
932	EH DOS FileOpen Failed	These are internal Writer errors. Call Service.
933	EH Aimwd Cannot Start Watchdog	
934	EH Aimwd Cannot Stop Watchdog	
935	EH Aimwd Reservation Failed	
936	EH Aimwd Release Failed	
937	EH Aimwd Cannot Give Timeout Semaphore	
938	FTP Buffer Malloc Failed	
939	FTP Connection Failed	
940	FTP Data Malloc Failed	
941	FTP Transfer Failed	
942	FTP Local File Create Failed	
943	EH Cant Create FT Daemon	
944	EH Cant Delete FT Daemon	
945	EH Cant Create FT Watchdog	
946	EH Cant Delete FT Watchdog	
947	EH FT Cant Close File	
948	EH FT Cant Delete File	
949	EH FT Cant Start Transfer Timer	
950	EH FT Cant Stop Transfer Timer	
951	Check host	
952	Check host	
953	Missing TIFF Tag : XRESOLUTION	There was a problem with a TIFF file that was sent to the Writer. A required TIFF tag was missing from the image data. Correct the noted problem with the file and rerun the job.
954	Missing TIFF Tag : YRESOLUTION	
955	Missing TIFF Tag : COMPRESSION	
956	Missing TIFF Tag : TYPE3OPTIONS	
957	Missing TIFF Tag : TILEWIDTH	
958	Missing TIFF Tag : TILELENGTH	
959	Missing TIFF Tag : TILEOFFSETS	
960	Missing TIFF Tag : TILEBYTECOUNTS	
961	Missing TIFF Tag : IMAGEWIDTH	
962	Missing TIFF Tag : IMAGELENGTH	
963	Missing TIFF Tag : STRIPOFFSETS	
964	Missing TIFF Tag : STRIPBYTECOUNTS	

Appendix A Input Methods

NOTE: Version 3 of *Kodak* i9600 Application Software now includes support for the non-TIFF input files. In this appendix, input files may be a TIFF or other supported non-TIFF file type. See Appendix E, *Image File Specifications* for more information.

The *Kodak* i9600 Application Software reads image files from a disk drive (usually a drive that is shared on the network) and sends them to the Writer. Input methods allow you to sequence image files as desired on media. Following are the supported input methods:

- Manual — List file and Batch
- Poll mode

Batch

In this method, image files are read from a directory specified by the input source path. The presence of subdirectories and the number of subdirectory levels, in conjunction with the grouping and media capacity selections, determines the sequencing of images on media at the desired level. The sequencing of images within a level is done via the ASCII file sorting algorithm. The directory structure required to provide the desired results on media is dependent on input file type (single-page or multi-page).

- For **page-level** grouping with single-page or multi-page input files, the directory must contain only the input files and no subdirectories. (See Examples 1 and 4 in this section.)

  NOTE: With multi-page input files the hierarcy will be lost.

- For **document-level** grouping with single-page input files, the directory must contain one or more subdirectories one level down, each of which contains input files. Within each subdirectory, the first image (Normal media capacity) or first two images (High media capacity) will be written as document-level, and subsequent images will be written as page-level. (See Example 5 in this section.)
- For **document-level** grouping with multi-page input files, the directory must contain only the input files and no subdirectories. The first image (Normal media capacity) or first two images (High media capacity) of each file will be written as document-level, and subsequent images will be written as page-level. If single-page files are included, they are processed as multi-page files with only one page and written as document-level. (See Example 9 in this section.)

- For **folder-level** grouping with single-page input files, the directory must contain one or more subdirectories one level down, each of which contains one or more subdirectories that contain input files. For the first sub-subdirectory within each subdirectory, the first image (Normal media capacity) or first two images (High media capacity) will be written as folder-level, the next image (Normal media capacity) or next two images (High media capacity) will be written as document-level, and subsequent images will be written as page-level. For all subsequent sub-subdirectories within each subdirectory, the first image (Normal media capacity) or first two images (High media capacity) will be written as document-level and subsequent images will be written as page-level. (See Example 6 in this section.)
- For **folder-level** grouping with multi-page input files, the directory must contain one or more subdirectories one level down, each of which contains input files. For the first file within each subdirectory, the first image (normal media capacity) or first two images (high media capacity) will be written as folder-level, the next image (normal media capacity) or next two images (high media capacity) will be written as document-level, and subsequent images will be written as page-level. For all subsequent files within each subdirectory, the first image (normal media capacity) or first two images (high media capacity) will be written as document-level and subsequent images will be written as page-level. (See Examples 8 and 10 in this section.)

NOTES:

- Images with no grouping are not supported with the Batch input method.
- If Media Capacity either High or Custom Two Channel and the grouping is document-level or folder-level, the B channel will be left blank in any frame where a higher-level image follows the A channel image, or where a folder-level or document-level image follows a folder-level or document-level image.

List file

In this method, the image files to be written to media must be listed in a file using full pathnames. Files are read and written to media in the same order as they appear in the List file.

Grouping is specified with the use of one or more dashes. A pathname not preceded with a dash(es) specifies the highest level per the grouping selected. Each dash preceding a pathname represents one image level below the highest level.

NOTE: With document- or folder-level grouping the first pathname in the List file must be specified at the highest level, or enter a valid path and image name to begin immediately with no grouping.

The List file structure required to provide the desired results on media is dependent on input file type (single-page or multi-page).

- For page-level grouping with **single-page** or **multi-page** input files, the maximum number of dashes that can precede a pathname is 1. Pathnames with no dash result in page-level images, and pathnames with 1 dash result in images with no grouping. (See Examples 1 and 4 in this section.)

  NOTE: With multi-page input files the multi-page grouping will be lost.

- For document-level grouping with **single-page** input files, the maximum number of dashes that can precede a pathname is 2. Pathnames with no dash result in document-level images, pathnames with 1 dash result in page-level images, and pathnames with 2 dashes result in images with no grouping. When Media Capacity is either High or Custom, Two Channel, each document-level file, that is followed by a page-level file, will be paired with that page-level file and both will be written as document-level. All subsequent files, until the next document-level designation, will be written as page-level. (See Examples 2 and 5 in this section.)
- For document-level grouping with **multi-page** input files, the maximum number of dashes that can precede a pathname is 2. A pathname with no dashes results in the first image (Normal media capacity) or first two images (High media capacity) of the file being written as document-level, and subsequent images being written as page-level. A pathname with 1 dash results in all images of the file being written as page-level. A pathname with 2 dashes results in all images of the file being written as images with no grouping. (See Example 7 in this section.)

  NOTE: The inclusion of dashes with multi-page input files will cause the multi-page grouping to be lost.

- For folder-level grouping with **single-page** input files, the maximum number of dashes that can precede a pathname is 3. Pathnames with no dash result in folder-level images, pathnames with 1 dash result in document-level images, pathnames with 2 dashes result in page-level images, and pathnames with 3 dashes result in images with no grouping. (See Example 3 in this section)

NOTES:

- Use of Grouping should be limited and is not recommended since the images cannot be retrieved with automatic methods.
- If media capacity is High or Custom, Two Channel and the grouping is document- or folder-level, the B channel will be left blank in any frame where a higher-level image follows the A channel image, or where a folder-level or document-level follows a folder-level or document-level image.

Creating a List file

List files can be created using a text editor or customer-defined program. List file creation is not part of the i9600 Application Software. Refer to Appendix B, *Using the Input Processor Software* for more information.

List files must conform to the following specifications:

- A separate line must be used for each image file.
- Each line must include the full pathname of the file, and the .tif file extension.
- Grouping level changes are specified by prefixing the full pathname of a file with dashes. For more information, see the previous section entitled, “List file”.
- No spaces are allowed between the dash(es) (denoting a level change) and the pathname.
- c style comments are allowed using a double backslash (//) at the beginning of the comment.

NOTE: Use of no grouping should be limited and is not recommended since the images cannot be retrieved with automatic methods.

Examples

The following examples illustrate most requirements for archiving. The examples provide summaries followed by detailed explanations and use of the default values.

These examples all use image-only TIFF input files to show a relationship of one input file and one output file. A single-page TIFF file will always create one output image on film.

Example 1

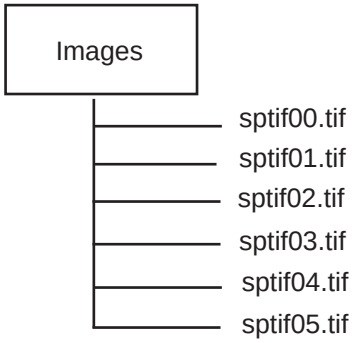
Job Type Setup

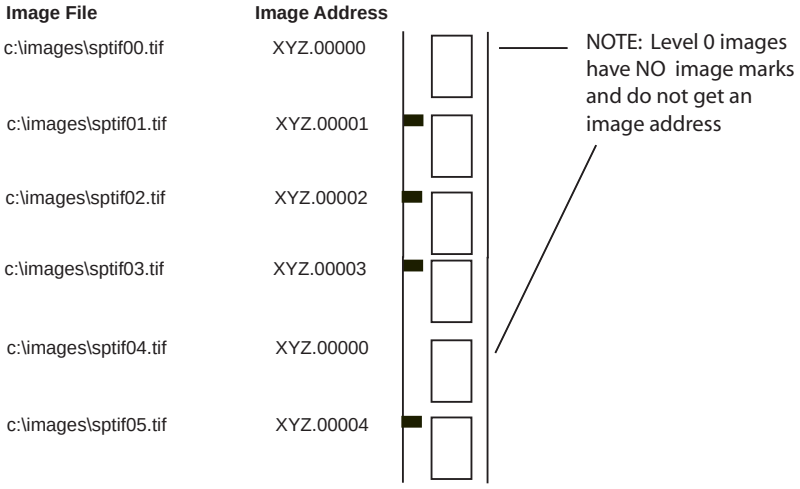
Grouping:	Page-level
File Type:	Single-page
Media Capacity:	Normal
Starting Image Address:	XYZ.00001
Input Method:	List

List file

-c:\images\sptif00.tif	*(Level 0)*
c:\images\sptif01.tif	
c:\images\sptif02.tif	
c:\images\sptif03.tif	
-c:\images\sptif04.tif	*(Level 0)*
c:\images\sptif05.tif	

Batch Directory





Example 2

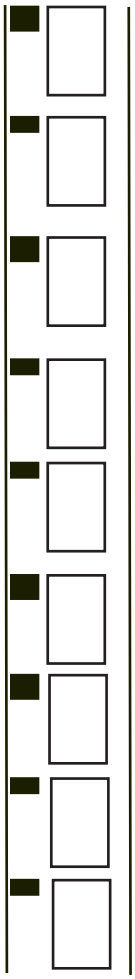
Job Type Setup

Grouping:	Document-level
File Type:	Single-page
Media Capacity:	Normal
Starting Image Address:	FIX.001.000
Input Method:	List (filenames must appear in this order, not numeric-alpha)

List file

Level	List file
Document	c:\smith\sptif01.tif
Page	-c:\smith\sptif02.tif
Document	c:\jones\sptif01.tif
Page	-c:\jones\sptif02.tif
Page	-c:\jones\sptif03.tif
Document	d:\acct\sptif01.tif
Document	d:\deed\sptif01.tif
Page	-d:\deed\sptif02.tif
Page	-d:\deed\sptif03.tif

Image File	Image Address
c:\smith\sptif01.tif	FIX.001.000
-c:\smith\sptif02.tif	FIX.001.001
c:\jones\sptif01.tif	FIX.002.000
-c:\jones\sptif02.tif	FIX.002.001
-c:\jones\sptif03.tif	FIX.002.002
d:\acct\sptif01.tif	FIX.003.000
d:\deed\sptif01.tif	FIX.004.000
-d:\deed\sptif02.tif	FIX.004.001
-d:\deed\sptif03.tif	FIX.004.002



Example 3

Job Type Setup

Grouping:	Folder-level
File Type:	Single-page
Media Capacity:	Normal
Starting Image Address:	FIX.001.000.000
Input Method:	List (filenames must appear in this order, not numeric-alpha)

List File

Level	List file
Folder	c:\acct3\jones\spjones01.tif
Document	-c:\acct3\jones\spjones02.tif
Page	--c:\acct3\jones\spjones03.tif
Document	-c:\acct3\smith\spsmith01.tif
Document	-c:\acct3\elm\spelm01.tif
Page	--c:\acct3\elm\spelm02.tif
Folder	d:\deeds\1900\1920\sp01.ti
Document	-d:\deeds\1900\1920\sp02.tif
Page	--d:\deeds\1900\1920\sp03.tif
Page	--d:\deeds\1900\1920\sp04.tif
Document	-d:\deeds\1900\1921\sp01.tif
Page	--d:\deeds\1900\1921\sp02.tif
Page	--d:\deeds\1900\1921\sp03.tif

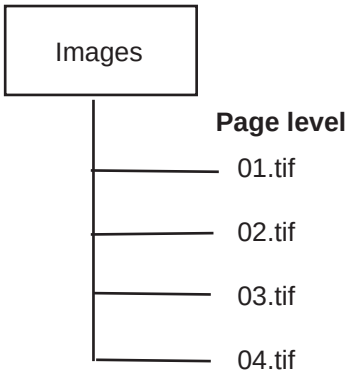
Image File	Page within Grouping	Image Address
c:\acct3\jones\spjones01.tif	1	FIX.001.000.000
-c:\acct3\jones\spjones02.tif	2	FIX.001.001.000
--c:\acct3\jones\spjones03.tif	3	FIX.001.001.001
-c:\acct3\smith\spsmith01.tif	1	FIX.001.002.000
-c:\acct3\elm\spelm01.tif	1	FIX.001.003.000
--c:\acct3\elm\spelm02.tif	2	FIX.001.003.001
d:\deeds\1900\1920\sp01.tif	1	FIX.002.000.000
-d:\deeds\1900\1920\sp02.tif	2	FIX.002.001.000
--d:\deeds\1900\1920\sp03.tif	3	FIX.002.001.001
--d:\deeds\1900\1920\sp04.tif	4	FIX.002.001.002
-d:\deeds\1900\1921\sp01.tif	1	FIX.002.002.000
--d:\deeds\1900\1921\sp02.tif	2	FIX.002.002.001
--d:\deeds\1900\1921\sp03.tif	3	FIX.002.002.002

Example 4

Job Type Setup

Grouping:	Page-level
File Type:	Single-page
Media Capacity:	High
Starting Image Address:	FIX.001
Input Method:	List or Batch

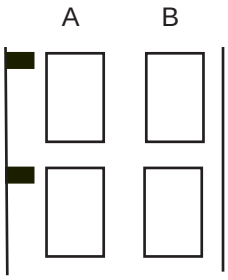
Batch Directory



List file

c:\images\01.tif
c:\images\02.tif
c:\images\03.tif
c:\images\04.tif

Channel	Image File	Image Address
A	c:\images\01.tif	FIX.001
B	c:\images\02.tif	FIX.001
A	c:\images\03.tif	FIX.002
B	c:\images\04.tif	FIX.002

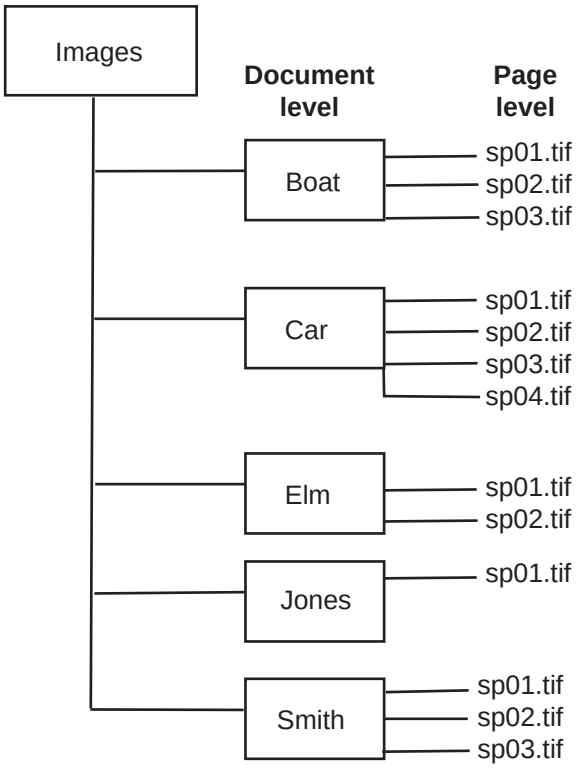


Example 5

Job Type Setup

Grouping:	Document-level
File Type:	Single-page
Media Capacity:	High
Starting Image Address:	FIX.001.000
Input Method:	Batch or List

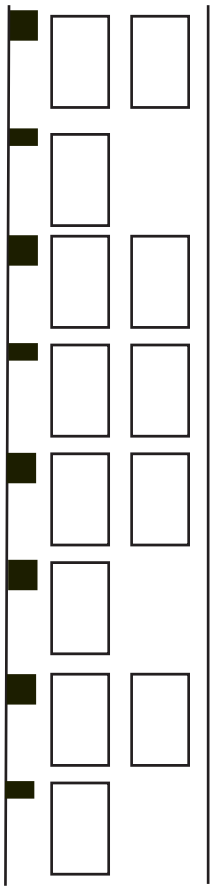
Batch Directory



Equivalent List File

Level	List file
Document	c:\images\boat\sp01.tif
Page	-c:\images\boat\sp02.tif
Page	-c:\images\boat\sp03.tif
Document	c:\images\car\sp01.tif
Page	-c:\images\car\sp02.tif
Page	-c:\images\car\sp03.tif
Page	-c:\images\car\sp04.tif
Document	c:\images\elm\sp01.tif
Page	-c:\images\elm\sp02.tif
Document	c:\images\jones\sp01.tif
Document	c:\images\smith\sp01.tif
Page	-c:\images\smith\sp02.tif
Page	-c:\images\smith\sp03.tif

List Level	Image Address Level	Channel	Image File	Page within Grouping	Image Address
Doc	Doc	A	c:\images\boat\sp01.tif	1	FIX.001.000
Page	Doc	B	c:\images\boat\sp02.tif	2	FIX.001.000
Page	Page	A	c:\images\boat\sp03.tif	3	FIX.001.001
Doc	Doc	A	c:\images\car\sp01.tif	1	FIX.002.000
Page	Doc	B	c:\images\car\sp02.tif	2	FIX.002.000
Page	Page	A	c:\images\car\sp03.tif	3	FIX.002.001
Page	Page	B	c:\images\car\sp04.tif	4	FIX.002.001
Doc	Doc	A	c:\images\elm\sp01.tif	1	FIX.003.000
Page	Doc	B	c:\images\elm\sp02.tif	2	FIX.003.000
Doc	Doc	A	c:\images\jones\sp01.tif	1	FIX.004.000
Doc	Doc	A	c:\images\smith\sp01.tif	1	FIX.005.000
Page	Doc	B	c:\images\smith\sp02.tif	2	FIX.005.000
Page	Page	A	c:\images\smith\sp03.tif	3	FIX.005.001

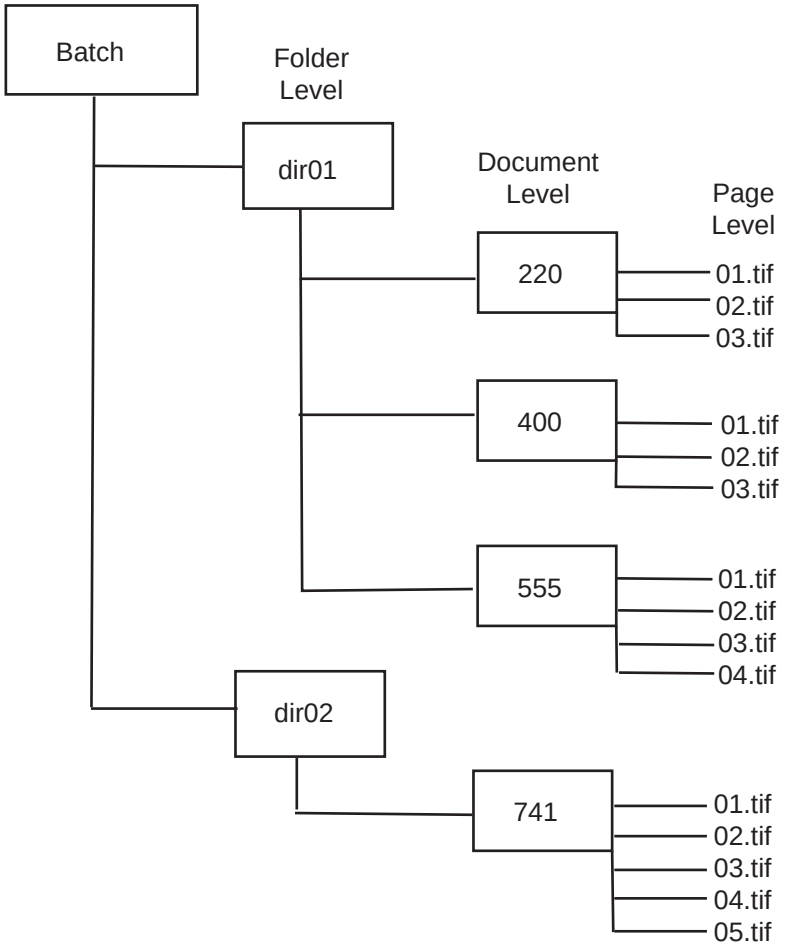


Example 6

Job Type Setup

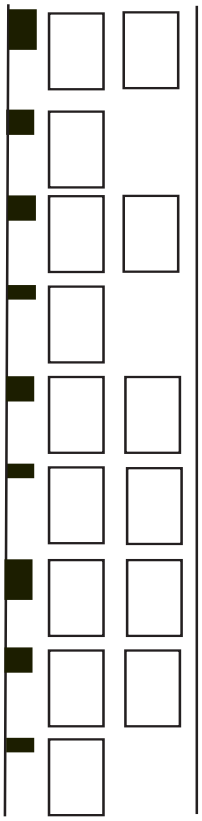
Grouping:	Folder-level
File Type:	Single-page
Media Capacity:	High
Starting Image Address:	FIX.001.000.000
Input Method:	Batch

Batch Directory



Batch Example

List Level	Image Address Level	Channel	Image File	Image Address
Folder	Folder	A	c:\Batch\dir01\220\01.tif	FIX.001.000.000
Doc	Folder	B	c:\Batch\dir01\220\02.tif	FIX.001.000.000
Page	Doc	A	c:\Batch\dir01\220\03.tif	FIX.001.001.000
Doc	Doc	A	c:\Batch\dir01\400\01.tif	FIX.001.002.000
Page	Doc	B	c:\Batch\dir01\400\02.tif	FIX.001.002.000
Page	Page	A	c:\Batch\dir01\400\03.tif	FIX.001.002.001
Doc	Doc	A	c:\Batch\dir01\555\01.tif	FIX.001.003.000
Page	Doc	B	c:\Batch\dir01\555\02.tif	FIX.001.003.000
Page	Page	A	c:\Batch\dir01\555\03.tif	FIX.001.003.001
Page	Page	B	c:\Batch\dir01\555\04.tif	FIX.001.003.001
Folder	Folder	A	c:\Batch\dir02\741\01.tif	FIX.002.000.000
Doc	Folder	B	c:\Batch\dir02\741\02.tif	FIX.002.000.000
Page	Doc	A	c:\Batch\dir02\741\03.tif	FIX.002.001.000
Page	Doc	B	c:\Batch\dir02\741\04.tif	FIX.002.001.000
Page	Page	A	c:\Batch\dir02\741\05.tif	FIX.002.001.001



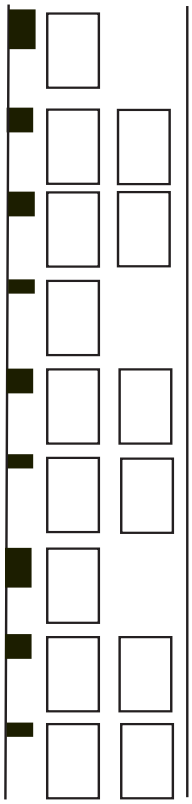
List Example

In List mode, the image layout rules are different. If you start a level 3 document with a single page tif, the system writes only this image in the A channel of the first frame, leaving the B channel blank. The first image of a 3-level job is the first page of the first document in that folder. The system does not know if the first single page tif is its own document or the first page of a longer document. The system has been set to always treat the first level 3, single page tif as its own document.

Equivalent List File

c:\Batch\dir01\220\01.tif
-c:\Batch\dir01\220\02.tif
--c:\Batch\dir01\220\03.tif
-c:\Batch\dir01\400\01.tif
--c:\Batch\dir01\400\02.tif
--c:\Batch\dir01\400\03.tif
-c:\Batch\dir01\555\01.tif
--c:\Batch\dir01\555\02.tif
--c:\Batch\dir01\555\03.tif
--c:\Batch\dir01\555\04.tif
c:\Batch\dir02\741\01.tif
-c:\Batch\dir02\741\02.tif
--c:\Batch\dir02\741\03.tif
--c:\Batch\dir02\741\04.tif
--c:\Batch\dir02\741\05.tif

List Level	Image Address Level	Channel	Image File	Image Address
Folder	Folder	A	c:\Batch\dir01\220\01.tif	FIX.001.000.000
Doc	Folder	B	c:\Batch\dir01\220\02.tif	FIX.001.000.000
Page	Doc	A	c:\Batch\dir01\220\03.tif	FIX.001.001.000
Doc	Doc	A	c:\Batch\dir01\400\01.tif	FIX.001.002.000
Page	Doc	B	c:\Batch\dir01\400\02.tif	FIX.001.002.000
Page	Page	A	c:\Batch\dir01\400\03.tif	FIX.001.002.001
Doc	Doc	A	c:\Batch\dir01\555\01.tif	FIX.001.003.000
Page	Doc	B	c:\Batch\dir01\555\02.tif	FIX.001.003.000
Page	Page	A	c:\Batch\dir01\555\03.tif	FIX.001.003.001
Page	Page	B	c:\Batch\dir01\555\04.tif	FIX.001.003.001
Folder	Folder	A	c:\Batch\dir02\741\01.tif	FIX.002.000.000
Doc	Folder	B	c:\Batch\dir02\741\02.tif	FIX.002.000.000
Page	Doc	A	c:\Batch\dir02\741\03.tif	FIX.002.001.000
Page	Doc	B	c:\Batch\dir02\741\04.tif	FIX.002.001.000
Page	Page	A	c:\Batch\dir02\741\05.tif	FIX.002.001.001



Example 7

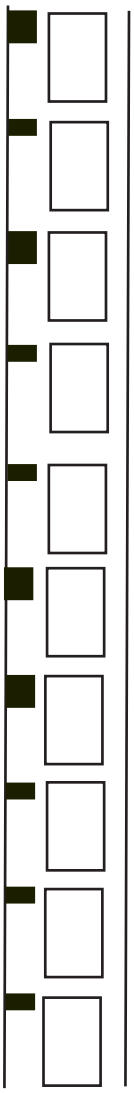
Job Type Setup

Grouping:	Document-level
File Type:	Multi-page (document-level grouping)
Media Capacity:	Normal
Starting Image Address:	FIX.001.000
Input Method:	List

List File

c:\images\2mp.tif
c:\images\3mp.tif
c:\images\1mp.tif
c:\images\4mp.tif

Image File	Page within Image File	Image Address
c:\images\2mp.tif	1	FIX.001.000
c:\images\2mp.tif	2	FIX.001.001
c:\images\3mp.tif	1	FIX.002.000
c:\images\3mp.tif	2	FIX.002.001
c:\images\3mp.tif	3	FIX.002.002
c:\images\1mp.tif	1	FIX.003.000
c:\images\4mp.tif	1	FIX.004.000
c:\images\4mp.tif	2	FIX.004.001
c:\images\4mp.tif	3	FIX.004.002
c:\images\4mp.tif	4	FIX.004.003

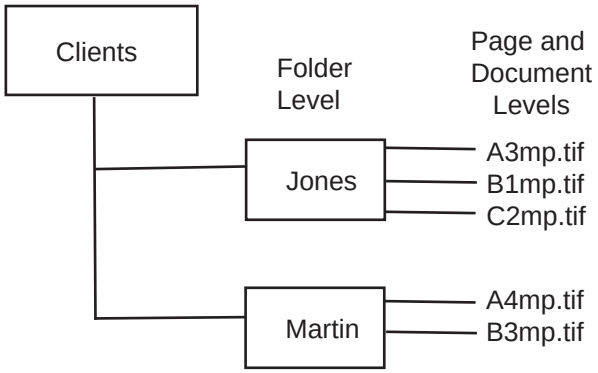


Example 8

Job Type Setup

Grouping:	Folder-level
File Type:	Multi-page (document-level grouping)
Media Capacity:	Normal
Starting Image Address:	FIX.001.000.000
Input Method:	Batch

Batch Directory

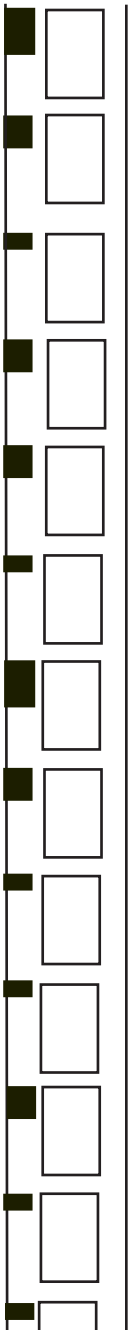


Equivalent List File

c:\clients\Jones\A3mp.tif
-c:\clients\Jones\B1mp.tif
-c:\images\Jones\C2mp.tif
c:\clients\Martin\A4mp.tif
-c:\clients\Martin\B3mp.tif

NOTE: To keep clients segregated add a document-level dash (-).

Image File	Page within Image File	Image Address
c:\clients\Jones\A3mp.tif	1	FIX.001.000.000
c:\clients\Jones\A3mp.tif	2	FIX.001.001.000
c:\clients\Jones\A3mp.tif	3	FIX.001.001.001
-c:\clients\Jones\B1mp.tif	1	FIX.001.002.000
-c:\clients\Jones\C2mp.tif	1	FIX.001.003.000
c:\clients\Jones\C2mp.tif	2	FIX.001.003.001
c:\clients\Martin\A4mp.tif	1	FIX.002.000.000
c:\clients\Martin\A4mp.tif	2	FIX.002.001.000
c:\clients\Martin\A4mp.tif	3	FIX.002.001.001
c:\clients\Martin\A4mp.tif	4	FIX.002.001.002
-c:\clients\Martin\B3mp.tif	1	FIX.002.002.000
c:\clients\Martin\B3mp.tif	2	FIX.002.002.001
c:\clients\Martin\B3mp.tif	3	FIX.002.002.002

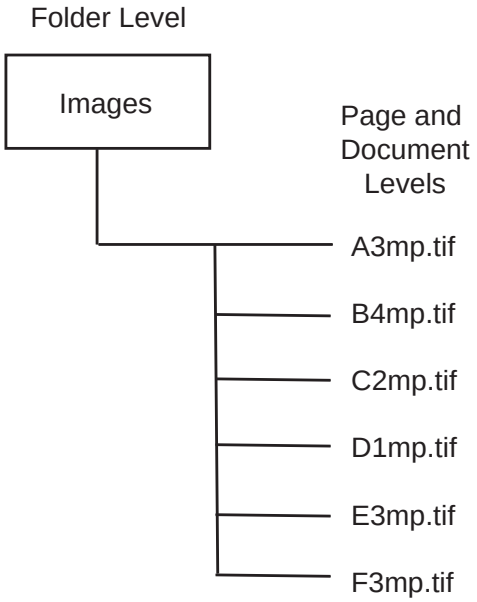


Example 9

Job Type Setup

Grouping:	Document-level
File Type:	Multi-page (document-level grouping)
Media Capacity:	High
Starting Image Address:	FIX.001.000
Input Method:	Batch

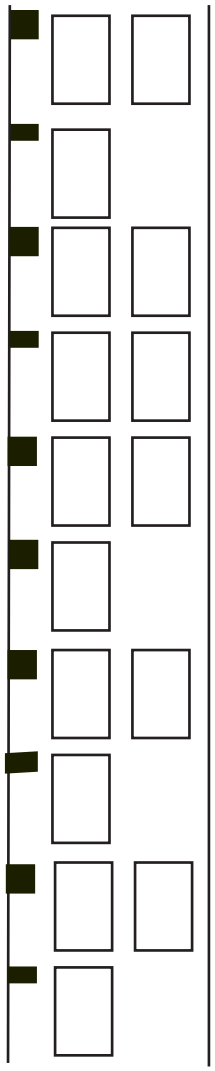
Batch Directory



List File

c:\images\A3mp.tif
c:\images\B4mp.tif
c:\images\C2mp.tif
c:\images\D1mp.tif
c:\images\E3mp.tif
c:\images\F3mp.tif

Image Address Level	Channel	Image File	Page within Image File	Image Address
Doc	A	c:\images\A3mp.tif	1	FIX.001.000
Doc	B	c:\images\A3mp.tif	2	FIX.001.000
Page	A	c:\images\A3mp.tif	3	FIX.001.001
Doc	A	c:\images\B4mp.tif	1	FIX.002.000
Doc	B	c:\images\B4mp.tif	2	FIX.002.000
Page	A	c:\images\B4mp.tif	3	FIX.002.001
Page	B	c:\images\B4mp.tif	4	FIX.002.001
Doc	A	c:\images\C2mp.tif	1	FIX.003.000
Doc	B	c:\images\C2mp.tif	2	FIX.003.000
Doc	A	c:\images\D1mp.tif	1	FIX.004.000
Doc	A	c:\images\E3mp.tif	1	FIX.005.000
Doc	B	c:\images\E3mp.tif	2	FIX.005.000
Page	A	c:\images\E3mp.tif	3	FIX.005.001
Doc	A	c:\images\F3mp.tif	1	FIX.006.000
Doc	B	c:\images\F3mp.tif	2	FIX.006.000
Page	A	c:\images\F3mp.tif	3	FIX.006.001

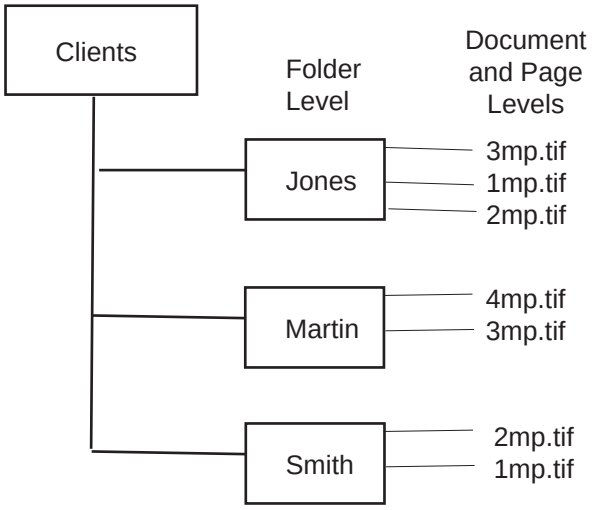


Example 10

Job Type Setup

Grouping:	Folder-level
File Type:	Multi-page (document-level grouping)
Media Capacity:	High
Starting Image Address:	FIX.001.000.000
Input Method:	Batch or List

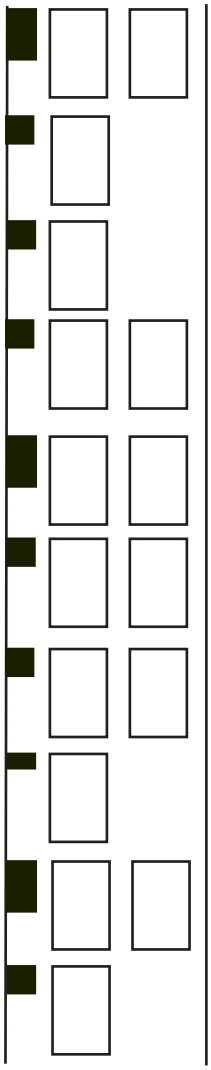
Batch Directory



List File

c:\clients\Jones\3mp.tif
-c:\clients\Jones\1mp.tif
-c:\clients\Jones\2mp.tif
c:\clients\Martin\4mp.tif
-c:\clients\Martin\3mp.tif
c:\clients\Smith\2mp.tif
-c:\clients\Smith\1mp.tif.

Image Address Level	Channel	Image File	Page within Image File	Image Address
Folder	A	c:\clients\Jones\3mp.tif	1	FIX.001.000.000
Folder	B	c:\clients\Jones\3mp.tif	2	FIX.001.000.000
Doc	A	c:\clients\Jones\3mp.tif	3	FIX.001.001.000
Doc	A	c:\clients\Jones\1mp.tif	1	FIX.001.002.000
Doc	A	c:\clients\Jones\2mp.tif	1	FIX.001.003.000
Doc	B	c:\clients\Jones\2mp.tif	2	FIX.001.003.000
Folder	A	c:\clients\Martin\4mp.tif	1	FIX.002.000.000
Folder	B	c:\clients\Martin\4mp.tif	2	FIX.002.000.000
Doc	A	c:\clients\Martin\4mp.tif	3	FIX.002.001.000
Doc	B	c:\clients\Martin\4mp.tif	4	FIX.002.001.000
Doc	A	c:\clients\Martin\3mp.tif	1	FIX.002.002.000
Doc	B	c:\clients\Martin\3mp.tif	2	FIX.002.002.000
Page	A	c:\clients\Martin\3mp.tif	3	FIX.002.002.001
Folder	A	c:\clients\Smith\2mp.tif	1	FIX.003.000.000
Folder	B	c:\clients\Smith\2mp.tif	2	FIX.003.000.000
Doc	A	c:\clients\Smith\1mp.tif	1	FIX.003.001.000

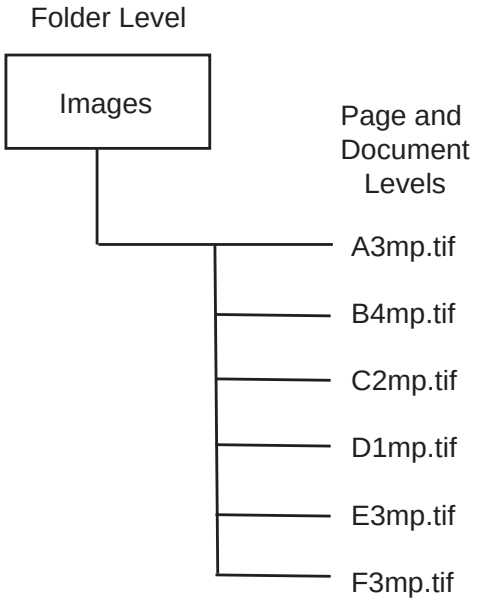


Example 11

Job Type Setup

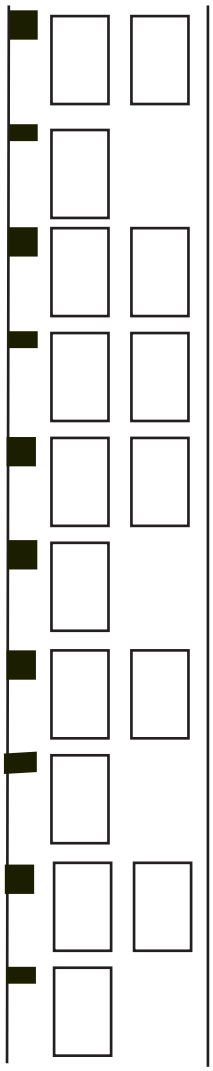
Grouping:	Document-level Offset Addressing
File Type:	Multi-page (document-level grouping)
Media Capacity:	High
Starting Image Address:	FIX.001.000
Input Method:	Batch

Batch Directory



List File
c:\images\A3mp.tif
c:\images\B4mp.tif
c:\images\C2mp.tif
c:\images\D1mp.tif
c:\images\E3mp.tif
c:\images\F3mp.tif

Image Address Level	Channel	Image File	Page within Image File	Image Address
Doc	A	c:\images\A3mp.tif	1	FIX.001
Doc	B	c:\images\A3mp.tif	2	FIX.001
Page	A	c:\images\A3mp.tif	3	FIX.001
Doc	A	c:\images\B4mp.tif	1	FIX.002
Doc	B	c:\images\B4mp.tif	2	FIX.002
Page	A	c:\images\B4mp.tif	3	FIX.002
Page	B	c:\images\B4mp.tif	4	FIX.002
Doc	A	c:\images\C2mp.tif	1	FIX.003
Doc	B	c:\images\C2mp.tif	2	FIX.003
Doc	A	c:\images\D1mp.tif	1	FIX.004
Doc	A	c:\images\E3mp.tif	1	FIX.005
Doc	B	c:\images\E3mp.tif	2	FIX.005
Page	A	c:\images\E3mp.tif	3	FIX.005
Doc	A	c:\images\F3mp.tif	1	FIX.006
Doc	B	c:\images\F3mp.tif	2	FIX.006
Page	A	c:\images\F3mp.tif	3	FIX.006



Poll mode

In Poll mode, the application software searches for a Poll file, which is created by some other means external to the application software and placed in a polling directory that is specified during job type setup. The Poll file must be an ASCII text file, e.g., a Notepad file.

Poll files can be setup to:

- **Check Contents for Path** — indicates that the very first line of the Poll file contains a directory path. If selected, the i9600 Application Software opens each Poll file, reads the first line, and uses the character string as a directory path. This path is a complete path to either a List file or a Batch directory. If there are no contents in the Poll file, the Poll file is processed as per the Filename as Path-Ignore Contents option.
- **Filename as Path-Ignore Contents** — indicates that the name of the Poll file (minus its extension) is used as a Batch directory. If selected (or inferred as described in Check Contents for Path), the i9600 Application Software looks at the name of the Poll file and then CD to that directory and uses it as a Batch directory.
- **Contents is Listfile** — indicates the Poll file is a List file.

When the Writer is integrated with a scanner, Poll mode facilitates simultaneous scanning and writing of images, without the need of an intermediate, manual batching step. If the Poll file is valid, the Poll file extension is changed to .done immediately. If the Poll file is invalid, its extension will be changed to .err and polling resumes.

When using Poll mode, you must select a Poll directory. The application software will poll the selected directory, locate and open any files and read the first line, which must contain a valid full path name to either an input List file, input Batch directory or a TIF file.

- If the first line of the file is a valid List file path name, that List file is processed.
- If the first line of the file is a batch directory path name, that batch is processed.
- If the first line of the file is a valid path to a TIF file, the Poll file is processed as a List file. The TIF file must have a .tif extension.

The List file or Batch directory will be processed with the selected job type and must be compatible with those job type settings.

Appendix B Using the Input Processor Software

Overview

The *Kodak* i9600 Application Software program group contains an icon for the Input Processor. Using the Input Processor to check your images first will reduce the possibility of errors when the files are being written to *Kodak* Reference Archive Media. The Input Processor performs the following functions:

- Converts non-TIFF supported files to black and white TIFF G4 files (PDF-A, PDF, Word, PowerPoint, JPG and BMP).
- Checks TIFF header tags for compatibility with the Writer.
- Runs a decompression check on TIFF files to ensure there will be no decompression errors during processing.
- Converts multi-strip TIFF images to TIFF Group 4 compression type allowing them to be processed by the Writer.
- Calculates the media usage.
- Optionally rotates images.
- Optionally creates a List file
- Optionally changes text files to TIFF files.

The Input Processor **does not** convert files from any other formats or rescale images. These functions are available through 3rd Party vendors. Refer to the Value Pack Software CD for more information.

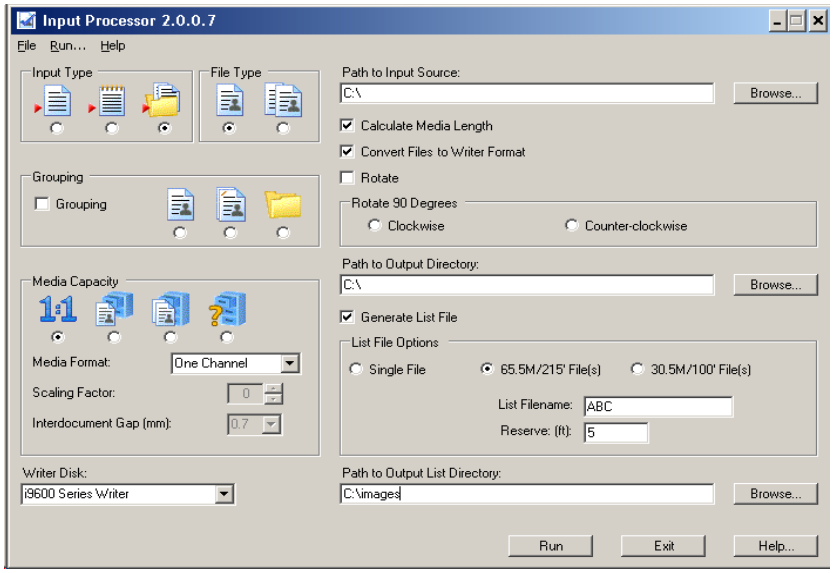
NOTE: The Input Processor will not convert TIFF files with color or grayscale data to black and white TIFFs.

The Input Processor window

Detailed explanations for the fields on the Input Processor window (Input Type, Grouping, Media Capacity, etc.) can be found in Chapter 4 in the section entitled, “Job Types dialog box”.

To access the Input Processor window:

- Double-click on the Input Processor icon on the desktop or select **Programs>Kodak>Kodak i9600 Input Processor**. The Input Processor window will be displayed:

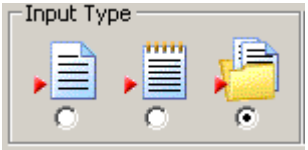


The following provides information about the options on the Input Processor window. See the next section for procedures on how to use this window.

The Input Processor window contains the following:

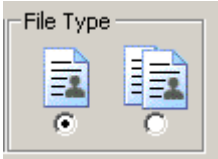
Input Type (required) — Individual file, List file, or Batch directory.

Poll mode is not applicable to the Input Processor. If your application uses Poll mode, select whichever List file, Batch directory or individual file corresponds to the item indicated by the Poll file in Poll mode.



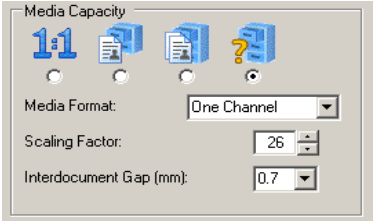
Grouping (required) — enable or disable grouping. If enabled, page-level, document-level, folder-level are available selections.

File Type (required) — Single- or Multi-page TIFF.



Media Capacity (required) — select one of the following:

- **1:1 (no scaling):** image size on the media is dependent on the digital resolution (dpi) of the image file.
- **Normal**: One Channel using 24X scaling factor.
- **High**: Two Channel using 40X scaling factor.
- **Custom**: allows you to select either one channel or two channel and a scaling factor from 0 to 99X. 0 is the default.
  - **Media Format** — select One Channel, Two Channel or Full Frame.
  - **Scaling Factor** — select a scaling factor from 0 to 99X. See the PDF file, *Understanding Scalin*g on the CD for more information.



Interdocument gap — enter a value from 0.6 mm to 5.0 mm to set the distance between images on media. The default is 0.7 mm. This value will always be measured in millimeters regardless of how the units of measure are set for your system.

Path to Input Source — Full path to the Individual file, List file or Batch directory.

Calculate Media Length — check this option if you want to know the amount of media your job will use. When this option is unchecked, it reduces processing time.

NOTE: This option is only valid if the job contains all single-page TIFF documents.

Convert Files to Writer Format (optional) — if this option is selected, a copy of the original image is created, converted and saved in the specified output directory. The originals remain in their original location. If the file is a text, PDF-A, PDF, Word, PowerPoint, JPG or BMP file, it will be converted to TIFF format and a .tif extension will be appended to the file name.

For example, *Picture.JPG* will be saved in the output directory as *Picture_JPG*.tif.

An output directory must be specified or an error will be displayed.

- **Rotate option** — check this option to rotate the files either 90° clockwise or 90° counterclockwise. Every image in the batch will be rotated.
- **Path to output directory** — directory where the converted TIFF images will be stored. If you do not make an entry in this field, a message will be displayed indicating there is an invalid path to the output directory. You must specify a path if your original images are located on read-only media.
- **Generate List File** — check this option to generate a List file if you want to run the final job in List mode. Disable this option if your job type is set up for Batch.

List File Options

- **Single file** — creates one continuous List file.
- **66 M/215' File(s)** — when selected, the Input Processor will limited the number of images contained in the List file to a maximum length of 66 meters/215 feet, less the amount of film saved for headers, trailers, etc., without breaking document boundaries. If any images remain, a second List file will be created and put in the same directory as the first List file.
- **30.5M/100' File(s)** — when selected, the Input Processor will limited the number of images contained in the List file to a maximum length of 30.5 meters/100 feet, less the amount of film saved for headers, trailers, etc., without breaking document boundaries. If any images remain, a second List file will be created and put in the same directory as the first List file.
- **List Filename** — enter the name for the List file. The first List file will be <List Filename>Roll01, <List Filename>Roll02, etc.
- **Reserve (ft).** — determine how many feet/meters of film you want saved for writing headers, trailers, leaders, etc.

NOTE: The **66M215' File(s)** and **30.5M/100' File(s**) options are only valid if the job contains all single-page TIFF documents.

Writer Disk drop-down box — checks all TIFF images to ensure that the file size of any single image is not too large for the Writer to handle.

Path to Output List Directory — allows you to select where you want to store the created List files.

Buttons on the Input Processor window

Browse buttons: used to display the File Selection window for the List file input, or Directory Selection window for Batch input. After you select a file name or directory name, the window disappears and the full path is displayed in the Input Source Path text box.

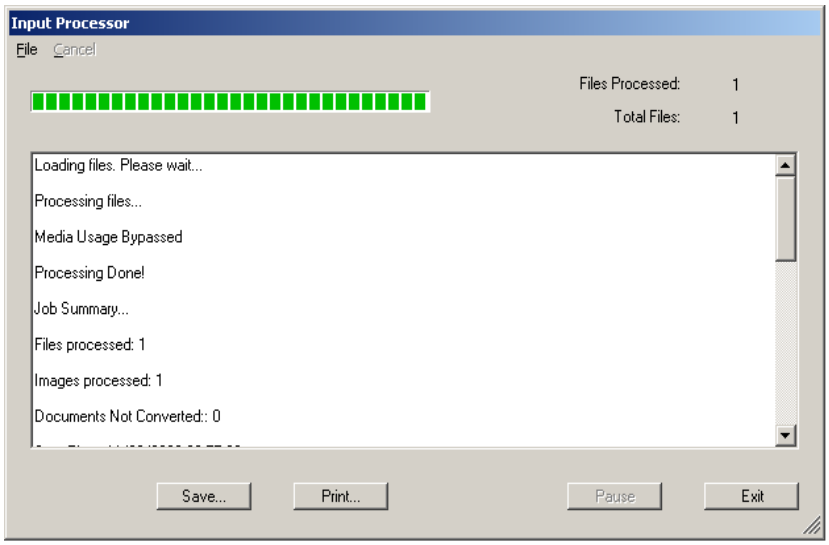
Run — when selected, the name of the file being checked will be displayed and the Progress meter will start. When the Input Processor has completed a job, either an error report or a ***No errors encountered*** message will be displayed in the Log box.

Exit — allows you to exit the Input Processor.

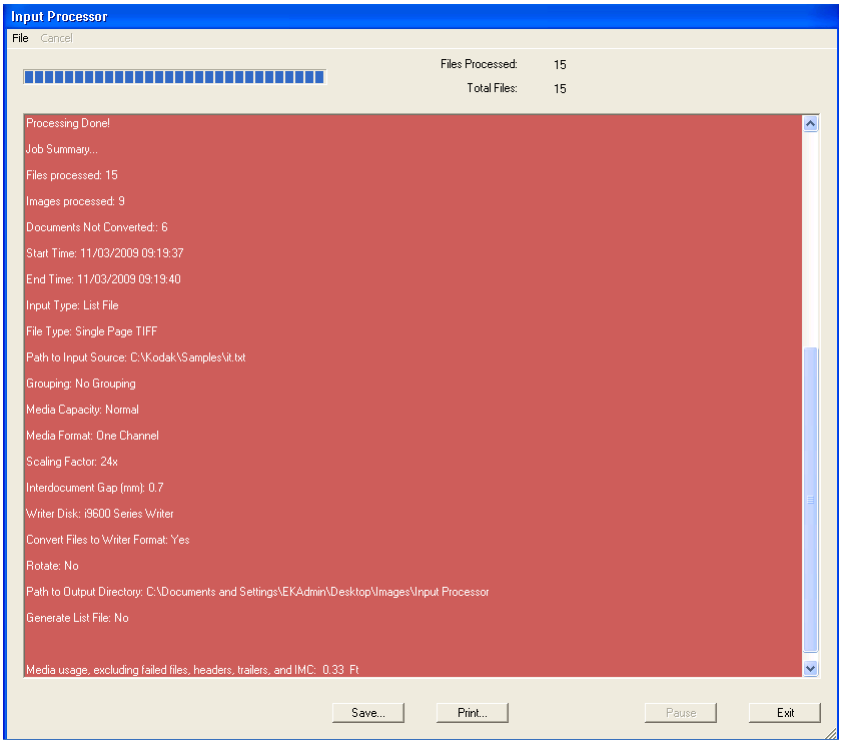
Help — displays on-line help for the Input Processor window.

Progress — when **Run** is selected, the Progress meter indicates the percentage of files in the List or Batch directory that the Input Processor has completed preprocessing. The Progress meter will scroll 3 times while it is checking images. Any errors that are encountered are displayed in the box under the Progress meter. You can save or print this listing.

If no errors occur, the media calculation will be displayed:



If an error does occur, the Input Processor screen will be displayed with a pink background indicating that an error was encountered during the verification of images**.**



Save — displays the Save As dialog box which allows you to save the log.

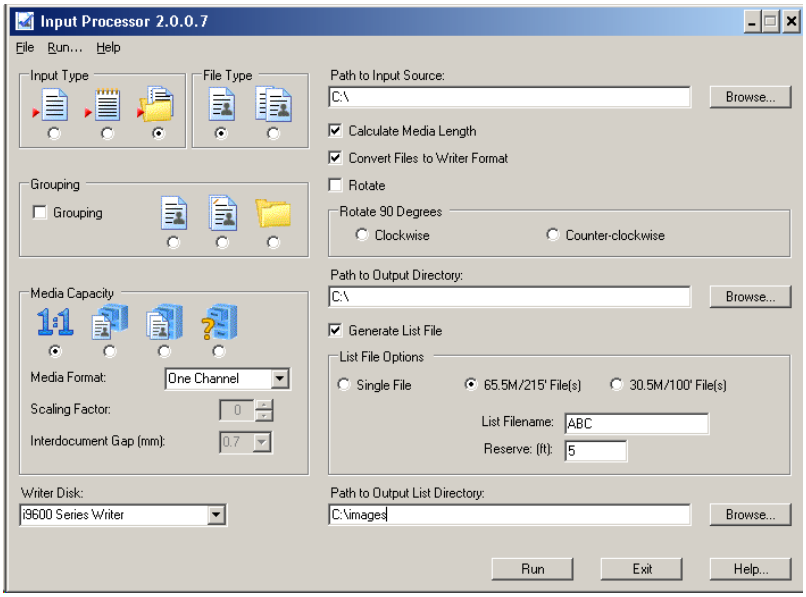
Print — displays the Print dialog box which allows you to print the log.

Exit — exits the Input Processor software.

Using the Input Processor

When you make selections on the Input Processor window, set the selections the same way your job in the *Kodak* i9600 Application Software selections are set. If you do not set your selections the same way, the media usage calculation will be incorrect.

1. Double-click on the Input Processor icon, or select **Start> Programs>Kodak>Kodak i9600 Input Processor**.



2. Select the **Input Type** you will be using when running your job.
   - If you select **Individual file** or **List file,** the File Type will be disabled.
   - If you select **Batch**, select the **File type**: Single- or Multi-page TIFFs.
3. Enable or disable **Grouping**: If Grouping is enabled, Page-Level, Document-Level or Folder-Level options are available. The fields will be populated with information for the selected job type, or if **Grouping** is disabled, the fields will be populated with default job type settings.
4. Select the **Media Capacity**: 1:1, Normal (One channel, 24X), High (Two Channel, 40X), or Custom. If you select **Custom**, select either One Channel or Two Channel from the Media Format drop-down list and select the desired Scaling Factor (0 to 99X).
5. Specify the full path to the List file, Batch directory or Individual file, or click **Browse** to display the File Selection window for the List file input, or Directory Selection window for Batch input.
6. Select the **Convert files to Writer format** option, if you want to convert your images to a Writer format.

NOTE: Text files will be converted to a multi-page TIFF file and formatted for an 8.5 x 11 inches output format. If **Rotate** is selected, the batch of images will be rotated.

7. Select either the **Rotate 90 degrees Clockwise** option or **Rotate 90 degrees Counterclockwise** option if you want to rotate all images.
8. Select an output path where you would like the converted images to reside and click **OK**.

   When a file is converted, an output directory must be entered (the filename refers to the name, extension, path and drive letter). If output directory is not specified, an error will be displayed.

   IMPORTANT:If your target path is the same as your input path, your images will be overwritten.

   When you select **Convert files to Writer format** and provide an output directory, a copy of every image in the List file or Batch directory will be placed in this directory whether the image needs to be converted or not. In addition, a new List file will be placed in the output directory (unless you are not generating a List file).

   This new directory structure separates files whose immediate filename and extension match. An example of renaming follows:

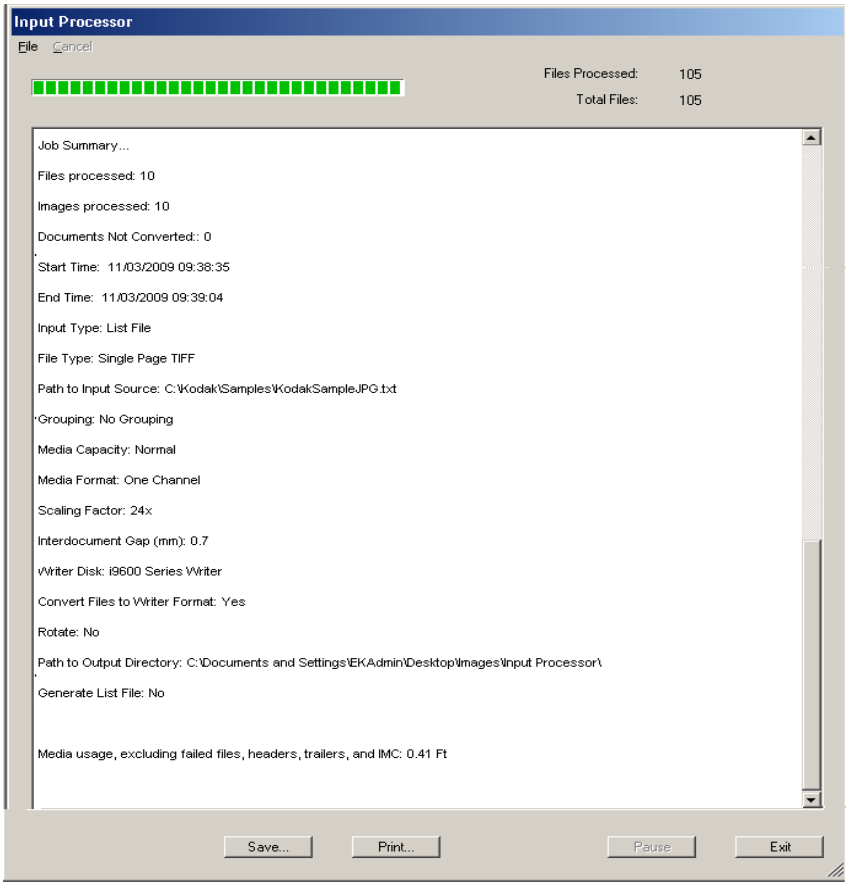
   Target directory: C:\Images

   Source files: C:\mage1.tif
   C:\image2.tif
   D:\image1.tif
   D:\mage1.doc

   Target files after conversion:
   C:\Images\C\image1.tif
   C:\Images\C\image2.tif
   C:\Images\D\image1.tif
   C:\Images\D\image1.doc.tif

   The conversion process also optionally creates a List file and lists all the converted files in addition to creating and populating a new directory structure. The list file is placed in the target directory, at the top level of the newly created structure.
9. If you want to create a List file, click **Generate List File** and select one of the List File options: **Single file, 66M/215’ File(s)** or **30.5M/ 100’ File(s).**

10. Click **Run**. The checking process will begin and a Status window will be displayed. The Progress meter scrolls 3 times while it is checking images. When completed, the log information will be displayed in the Status window.



NOTES:

- If you need to stop the Input Processor before completion, click **Stop**.
- If an error occurs, the Input Processor screen will be displayed with a **pink** background indicating that an error was encountered during the verification of images.
- If Exception Scaling is enabled in the Job Type, the "***Image too wide"*** messages can be ignored.
- "***Skipping***" messages can be ignored.
- Multipage files are not included in length calculations.

If there are no errors and you checked the **Calculate Media Length** option on the main Input Processor window, the media usage will be calculated for the batch of images. This calculation will include the user defined interdocument gap. When running this batch using the i9600 Application Software, extra media will be needed for the following:

–leader length
–header and trailer pages
–IMC
–Media advance(s)
–system generated header and trailer information.

NOTE: The effects of Exception Scaling are not included in the film length calculation.

11. Click **Save** to save the log to a text file in the specified location or **Print** to print a copy of the log.
12. Click **Exit** to return to the main Input Processor window.

Using the Input Processor for conversion of non-TIFF images

If you have large numbers of PDF-A or other non-TIFF input files that need to be archived, use the Input Processor to convert the non-TIFF files to native TIFF format before archiving to the Archive Writer.

Archiving the non-TIFF files requires that the input files be converted to black and white TIFF format before being written to film. Color images and data will be thresholded to produce black and white images. This thresholding and conversion process is CPU-intensive and can take several seconds per file. The Input Processor application can be installed on several workstations and the outputted TIFF files can be stored on shared storage that is accessible to the PC that is hosting the Archive Writer. This configuration will speed the archival time of large amounts of non-TIFF files.

The Input Processor application also requires the native software for some non-TIFF images to be available on its host PC. See Chapter 2, *Installing the Software* for more information. If the required host application is not installed, the following message will be displayed "***One or more files were omitted. This may be due to an uninstalled supporting application. Do you want to continue processing the job"*** and the file will not be converted or added to the output List file.

NOTE: If non-TIFF files are in the input stream of the input processor and the **Convert to Writer Format** option is not selected, the non-TIFF files will not be checked and the "file skipped" message will be written in the Input Processor output report.

Host PC performance will determine the amount of time that is required to convert non-TIFF files to TIFF files. The chart below provides approximate conversion times based on the recommended PC requirements and a faster system.

Average file conversion times, per image, containing a mix of single- and multi-page files		
	Recommended PC	**Faster PC**
JPG	7.5 seconds	3.1 seconds
PDF	5.0 seconds	2.6 seconds
Word	4.6 seconds	2.0 seconds
PowerPoint	10.9 seconds	5.2 seconds

Appendix C Glossary

Advance — Instructs the Writer to advance the media the distance specified by the Advance Length parameter entered by the user.

AWIS — Archive Writer Interface Software, the previous version of interface software that supported the *Kodak* i9600 Series Writers and the *Kodak Imagelink* Document Archive Writer 4800.

Beginning of Roll Processing — When a new roll of media is required, the application software initiates the beginning of roll processing, which includes creating a media leader and optionally writing Image Management Code (IMC), system-generated audit pages, header pages, and quality target files.

Digital Scaling — internal process used by the Writer to achieve the desired scaling factor.

Document level (*formerly referred to as two-level)* — Images are grouped, using a document-level hierarchy. The first frame within each group is written with a medium image mark. Subsequent frames within the group are written with a small image mark. Retrievals can be made of an entire group or individual images.

End-of-Roll Processing — When the user indicates the roll of media is complete, the application software initiates end-of-roll processing, which optionally includes writing trailer pages.

Error Handling — In a situation where an image file cannot be written to media, the application pauses and provides the user the name of the invalid image file. The user can manually replace the bad image file with a good one. When the user restarts the writing process, it begins with the replacement image file.

Error Log — This file contains error information logged by the application software.

Folder-level (*formerly referred to as three-level)* — Images are grouped, using a folder-level hierarchy. The first frame within each group is written with a large image mark. Subsequent frames within the group are written with a medium or small image mark depending on the grouping specified via the input method and input type. Retrievals can be made of an entire group, second-level sub-group or individual images.

Grouping *(formerly referred to as indexing*) — indicates page-level, document-level and folder-level.

Header Pages — Optional customer-supplied image files that can be written to the beginning of the media. These images may or may not be grouped.

IMC — Image Management Code. Code written at the beginning of a roll of media, which allows automatic setup of the retrieval device.

Job — A batch of work defined by the image set to be written to media.

Job Types *(formerly referred to as film template)* — A set of parameters that relates to how a collection of images will be written to media.

***Kodak* i9600 Application Software** — The software application that controls the Writer.This software provides a high-level interface to the *Kodak Digital Science* Document Archive Writer 4800 and the *Kodak* i9600 Series Writers. Also referred to as *application software.*

Page-level *(formerly referred to as single-level)* — Images are not grouped, every frame is written with a small image mark.

Roll ID Management — When a new roll of media is required by the Writer, the application software prompts for a new roll identifier and verifies that the name does not currently exist in the i9600 Application Software database.

Run to End — Runs the media to the end of the physical roll.

Scaling Factor — digital equivalent of traditional reduction ratio.

Status Reporting — The application software displays the following information:

- Remaining media in both cartridges
- Last image address written
- Percentage of the input file collection written
- Number of images written

TIFF — Tagged Image File Format. A standard format for storing image data in a file. Image data is stored as CCITT G3, G4, JBIG or uncompressed. Single- and multi-page TIFF files are supported by the Writer. Multi-strip and tiled TIFF files are not supported, but the Input Processor can be used to convert multi-strip images to single-strip images.

Trailer Pages — Optional customer-supplied image files that can be written to the end of the media. These images may or may not be indexed.

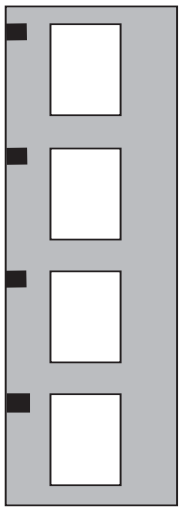
Transfer File — An optional file created during the writing of images to media. The information in this file can be used by an external application to update an external database. At a minimum, it contains the original image file name, roll number and the image address assigned to the image. The name of the Transfer file is the same as the roll name, with an extension of .xfr.

Writer — The name of the hardware that writes image files to media. The official name is *Kodak* i9600 Series Writers. Two models are available: *Kodak* i9610 Writer: writes at 4800 scan lines per second and *Kodak* i9620 Writer: writes at 9600 scan lines per second.

Appendix D Grouping, Image Addresses and Image Marks

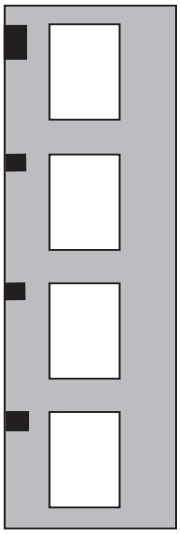
Images can be grouped in order to facilitate ease of retrieval. If grouping is specified, each image is assigned an image address that can be stored in an index database. An image mark is also written in each frame on the left edge of the media, for use by the retrieval device. An image mark can be small, medium or large. The grouping determines image mark sizes used, and whether images are written ungrouped, or in groups using a document or folder hierarchy. The following grouping is supported by the Writer:

Index Format	Sample Image Address Sequence
Grouping, disabled	Images are not assigned an image address, and image marks are not written in the frames. Images cannot be retrieved with automatic methods.
Page-level	1, 2, 3, 4
Document-level	1.0, 1.1, 1.2, 2.0, 2.1
Folder-level	1.0.0, 1.1.0, 1.1.1, 1.1.2, 1.2.0, 1.2.1, 2.0.0.



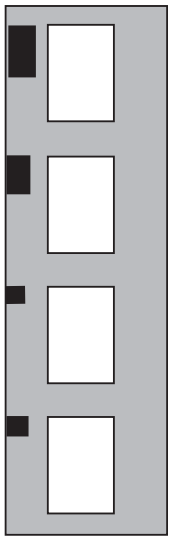
Page-level — images are not grouped. Every frame is written with a small image mark.

Page-level
Media Capacity is either Normal or Custom (One Channel)



Document-level — images are grouped using a document-level hierarchy. The first frame within each group is written with a medium image mark. Subsequent frames within the group are written with a small image mark. Retrievals can be made of an entire group or individual images.

Document-level
Media Capacity is either Normal or Custom (One Channel)



Folder-level — images are grouped using a folder-level hierarchy. The first frame within each group is written with a large image mark. Subsequent frames within the group are written with a medium or small image mark depending on the grouping specified via the input method and file type. Retrievals can be made of an entire group, second-level subgroup, or individual images.

Folder-level
Media Capacity is either Normal or Custom (One Channel)

Images should be grouped any time it is necessary to indicate a relationship between images for retrieval purposes. For example, the document-level grouping could be used to maintain the page relationship of individual multi-page files. The folder-level grouping could be used to maintain both the page and file relationships of multi-page files within a folder.

NOTE: Grouping can be done with One Channel or Two Channel media format, but the assigned image addresses will be different. When the media format is One Channel, each image is assigned a unique image address. When the media format is Two Channel, images paired in a frame are both assigned the same image address.

If you want to pack the media with as many images as possible, the job type should specify High media capacity, and page-level grouping, and the images should be oriented such that the shortest side of each image will be written parallel to the edge of the media.

Image addresses contain 1, 2 or 3 fields, depending on the grouping. The fields are delimited with a period. The image address increments as images are written to media, based on the grouping level. The image address may begin with a fixed field containing alphanumeric characters. Only the fixed field may contain alphas. The fixed field will be the same for every image on a roll. Image addresses may contain up to 12 characters. The maximum field size for any field of the image address, including fixed field, is 9 characters (8 in the fixed field if alphas are being used).

Grouping

The Writer supports three grouping levels (page-, document- and folder-level). The number of levels allowed is dependent on the grouping that is selected. An image or an entire job can also be designated as “Grouping, disabled”, which is written to media with no assigned image address, and the frame does not receive an image mark.

Use of **Grouping, disabled** should be limited as the images (or entire jobs) are not retrievable by automated methods. Appropriate use includes images used for media test and quality control purposes that are not part of the retrieval index database.

Appendix E Image File Specifications

This appendix details the specifications of the digital image files to be written to media. The Writer receives images to write to media from the application software through an Ethernet network interface. The application software only accepts image files in TIFF image format or ASCII text files.

TIFF file format

The TIFF image file format header contains data that identifies it as a TIFF file. The remaining data in the file are sets of TAG data followed by image data. The TAG data contains information, such as image length and width. Each TAG has a unique number followed by a value field. The TAG numbers used below have been accepted and published in the TIFF Standards document (*TIFF 6.0 Specification,* Aldus Corporation, June 3, 1992; search for TIFF6.PDF at http:// www.adobe.com). If there is more than one set of TAG and data sections, it is a multi-page TIFF file.

TIFF input file specifications

Image files accepted by the Writer must conform to the following specifications:

- Baseline conformance with the TIFF 6.0 Specification, including extensions for Group III, IV and JBIG compression types. Group IV compression is recommended.
- Bi-tonal.
- Single- or multi-page.
- Single-strip only. Rows per strip must equal image length. (TAG #278 must equal TAG# 257)

The TIFF tag fields that **must** be designated are:

- **X Resolution** — numeric; measured in pixels. TAG #282
- **Y Resolution** — numeric; measured in lines. TAG #283
- **Compression type** — note that options must also be specified when using Group III compression. TAG #259
- **Image width** — numeric; measured in pixels. TAG #256
  Application software validation occurs on the scaled image width, which is derived from this value and the desired scaling specified in job type setup. Valid scaled image width values are:

  1 to 3888 pixels (One Channel)
  1 to 1920 pixels (Two Channel)
  1 to 4864 pixels (Full Frame)

NOTE: The Input Processor may be used to verify TIFF tags, compression types, TIFF types and image dimensions.

Image length — numeric; measured in lines. The application software validation occurs on the scaled image length, which is derived from this value and the desired scaling specified in job type setup. Valid scaled image length values:

- 4800 Writer — 1 to 6900 lines
- i9600 Series Writers — 1 to 16,000 lines

The following TIFF tag fields **should** be designated. If not, default values will be used. This may or may not result in the image being correctly represented.

TAG #	Field	Default
258	Bits per sample	1
296	Resolution unit	Inches
262	Photometric interpretation	1=black
278	Rows per strip	=image length

TIFF compression types supported

The following compression types are supported:

- TIFF type 1 — no compression
- TIFF type 2 — CCITT Group III, 1-dimensional
- TIFF type 3 — CCITT T4 bi-level encoding
- TIFF type 4 — CCITT T6 bi-level encoding (recommended)
- JBIG — JBIG compression

Using JBIG compressed files

A JBIG compressed image file consists of a 20-byte header followed by the image data*. For use in the Writer the JBIG header and image data should not be modified. However, in order for the system to read and decompress these files, they must be enclosed in a TIFF file format wrapper.

The TIFF tags/fields that **must** be designated in the TIFF wrapper are:

- **X resolution** — must be provided; it cannot be derived from the JBIG file header. Numeric; measured in pixels. TAG #282
- **Y resolution** — must be provided; it cannot be derived from the JBIG file header. Numeric; measured in lines. TAG #283
- **Compression type** — must be: 34461 (0x8765). TAG #259
- **Image width** — set to the 'Xd' field found in the JBIG header. TAG #257
- **Image length** — set to the 'Yd' field found in the JBIG header. AG #257

* ITU-T Recommendation T.82, "Information Technology - Coded Representation of Picture and Audio Information - Progressive Bi-level Image Compression", 03/93.

- **Rows per strip** — must be the same as the image length for a compliant single-strip TIFF with compression. (TAG #278 must equal TAG #257)
- **Strip offsets** — must point to the JBIG 20-byte header. TAG #273
- **Strip byte counts** — must be the number of bytes in the JBIG file. TAG #279
- **JBIG header and image data —** the JBIG header must be incorporated as the first 20 bytes of the JBIG image data.

The bits-per-sample, resolution unit and photometric interpretation (if not present) should be designated, but if not, will be set to the default values shown earlier.

Restrictions for JBIG compression

The JBIG compressed file must be a single-strip only. Multi-strip images are not supported.

- The following bits must be 0 in the JBIG header:
  - Order field: HITOLO, SEQ, ILEAVE, SMID
  - Options field: TPDON, DPON, DPPRIV, DPLAST
- The P field in the JBIG header must be 1 (single-plane only).
- The TIFF tag field of JBIGOptions is not supported.

TIFF maximum file sizes

The Writer has an internal CPU with its own operating system. This CPU has no mass storage device (such as a hard drive) so its memory is organized into system and data storage areas. The data storage area is configured as if it were an external storage device (a DOS RAM disk). This is where image data is buffered before being written to media.

When Custom media capacity or Two Channel is used, the image storage space is divided between the two images.

- ***For the 4800 Archive Writer*** the maximum file size line limit is 6900.
- ***For the i9600 Writer*** the maximum file size line limit is 16,000.
- ***For the 4800 Archive Writer (Simplex):*** 1 MB file size, 8 MB with Expanded Memory.
- ***For the 4800 Archive Writer (Duplex):*** 500 KB file size, 4 MB with Expanded Memory.
- ***For the i9600 Writer (Simplex)***: 8 MB file size
- ***For the i9600 Writer (Duplex)***: 4 MB file size

Blank TIFF image (blank.tif)

Depending upon the desired grouping of images on media, it may be necessary to insert a space between images or groups of images on the media. A 1 KB blank image (blank.tif) is provided to use as a spacer. This blank.tif can be found in the install directory for the i9600 Application Software (usually c:\Program Files\KI96AS). This file is designed to process quickly and efficiently.

Text input file specifications

Text files are often used as header and trailer pages. The application software converts any text files to TIFF format prior to writing to media.

Image file names

All file names must conform to the Windows NT file naming convention. Long file names, up to 255 characters (including the directory path), are allowed.

TIFF files do not need the “.tif” extension. The data in the TIFF file header verifies that it is a TIFF formatted file.

The required extension for text files is “.txt” (not case sensitive).

Examples

\image123.tif
c:\pollcache\Electronic Microimager\batch001\00000001.tif
c:\app1\image File 234.001
f:\titles\monroe\image1.tif
c:\BeginRoll\application1\start.txt

Appendix F Archiving Non-TIFF Files

When archiving or converting Microsoft Word files, the following message may be displayed, **"*Do you want to save the changes to kodaksamplewordfile02_fax.doc?*"**. This message is generated by Microsoft Word. You may be able to change the settings of your Microsoft Word options to prevent this message.

NOTE: This message does not prevent the conversion or archival of Word files.

Non-TIFF input files

When archiving or converting non-TIFF images (PDF-A, Word, PowerPoint, etc.) it is important to understand that the Page Setup options stored within the input file will effect the output image that is written to film. A Word file that has been converted, when viewed via Microsoft Word, may appear to be a single page of text, but when printed or viewed in "Print Preview" may actually be formatted via the Page Setup options and may appear to be several pages of output. The page orientation (Portrait or Landscape) and margin size will have an effect on how the page will be written to film.

The best method to use when determining how a non-TIFF file will be formatted for output (i.e., how it looks on film) is to use the Print Preview option of the file's native program (i.e., Word, PowerPoint, Adobe viewer.)

Monitoring the progress of a non-TIFF archiving job

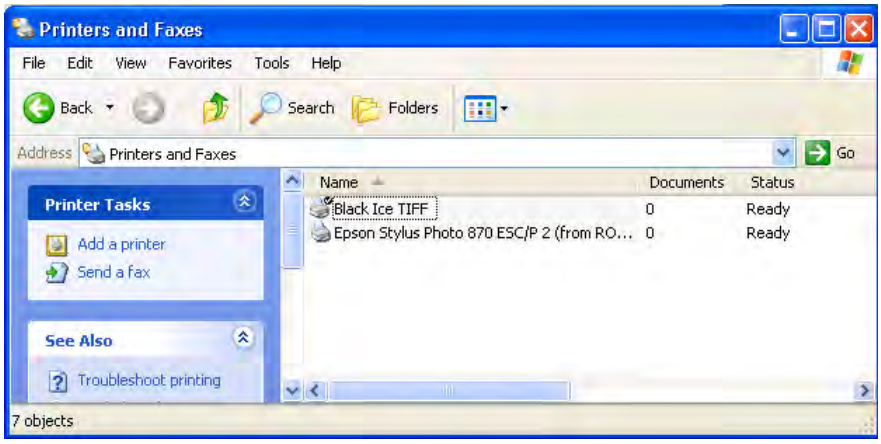
When archiving non-TIFF files directly to the Archive Writer without converting the files to TIFF format first, the message ***"Converting Documents. Please be patient..."*** will be displayed.

Depending on the number of non-TIFF files and the speed of your host PC, this conversion process may only take a few seconds or several hours. See the chart below for general conversions times for non-TIFF files.

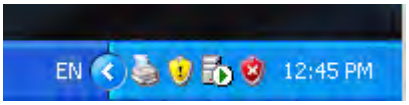
Average file conversion times, per image, containing a mix of single- and multi-page files		
	Recommended PC	**Faster PC**
JPG	7.5 seconds	3.1 seconds
PDF	5.0 seconds	2.6 seconds
Word	4.6 seconds	2.0 seconds
PowerPoint	10.9 seconds	5.2 seconds

During the conversion process you can monitor the status by viewing the conversion process on the Black Ice TIFF printer monitor. To access the printer monitor, do the following:

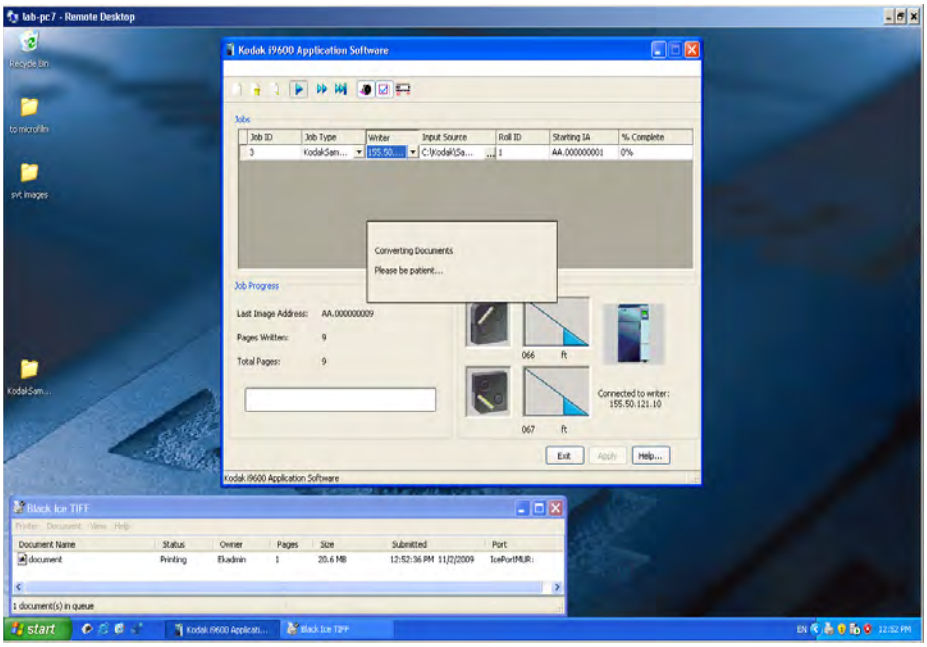
1. Select **Start>Settings>Control Panel>Printer and Faxes.** The Printers and Faxes dialog box will be displayed.



2. Select **Black Ice TIFF** to display the Black Ice TIFF printer monitor screen (or double-click the **Printer** icon in the system tray and open the Black Ice TIFF printer monitor).



As each non-TIFF file is converted, you will see the file being processed. After all non-TIFF files are converted, the images will be written to film.



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