Vancouver Response Center
T. 604.451.2727
Toll free T. 1.800.451.2727
F. 604.451.2713
Toll free T. 1.800.767.2736

Customer support email:
callcentre@creo.com

www.creo.com

Document number: 78-0094A-C
Release date: 21 February 2002r

Technical bulletin

Best Practices When Creating CT/LW Files for Output in Prinergy

You can import contone and linework (CT/LW) files into your Prinergy system and create final output files, proofs, or plates. However, the Brisque settings you choose when you create the original CT/LW files may affect Prinergy performance and output.

This document provides general, performance, and artifact reduction recommendations for:

- Using Brisque to create CT/LW files for use with Prinergy.
- Processing CT/LW files in Prinergy.
- Transferring CT/LW files to removable media for use in Prinergy.

Although many of the details described in this document are Brisque-specific and apply to CT/LW pages, you can also apply the basic recommendations when:

- Creating TIFF/IT-P1 pages.
- Using PDF2Go (Brisque version 4).
- Using ExportPS on a Brisque (though not currently recommended).
- Using a third-party application to convert CT/LW pages to PostScript or another format.
- Using the Prinergy CEPSConversion JTP to convert CT/LW pages into PDF files.

Note: To process files with the Prinergy CEPSConversion JTP, use the Prinergy Process Plan Editor to create a Refine process plan with CEPSConversion enabled and configured to the desired settings.

Choosing an Option

The job processing option(s) you choose depend on your requirements. In some instances, you may need to balance the benefits of better image characteristics over lower performance.

Some options have clear benefits with no noticeable drawbacks and should always be implemented. For example, RIPing vignettes to CT instead of LW speeds up processing time and has a minimal effect on output image quality.

Other settings may result in faster processing times, but your output quality may be negatively affected. For example, setting **CT on CT Border** to **CT Res** on a Brisque will increase Prinergy performance but edges may appear blurry where contone images overlap in your final output.

Check the recommendations in the *Artifacts Issues* section and in *Sample Recommendations for CT/LW Processing* at the end of this bulletin.

1. General Recommendations

General Guidelines for Using CT/LW files with Prinergy

For best results, follow these general guidelines when using CT/LW files with Prinergy:

- Perform as much of the page preparation as possible in the originating workflow/RIP to reduce the potential for introducing errors. For example, perform color conversion, including spot color handling and overprint settings, and trapping on the Brisque before importing CT/LW files into Prinergy.
- Simplify the linework components for faster processing through Prinergy. For example, try to avoid CT content in the LW file. If you are working with TIFF/IT pages, avoid or simplify high-resolution contone (HC) components to obtain faster Prinergy processing times.
- If you use FAF/RIP templates to create CT/LW pages in the Brisque, use a specific template to create CT/LW output that is optimized for use with Prinergy. For example, this template could have the resolution set to match the Prinergy output device resolution. This output template should also RIP vignettes to the CT layer instead of the LW layer.
- When refining files with the CEPSConversion JTP, ensure that all the page elements, for example, CT/ICT, LW/HC/ILW, ASSG/FP/IFP, and so on, are available before starting the Refine process in Prinergy. If elements are missing, the Refine process will fail.

Avoid Running Copydot Pages through Brisque When Possible

If you have a Copydot page intended for output through Prinergy, don't run the page through the Brisque unless it's necessary. Sending the Copydot page directly to Prinergy for processing by the Copydot JTP whenever possible will result in a page that performs better than a Copydot page that was first processed by the Brisque as CT/LW.

This option has no visible impact and reduces the possibility of moiré artifacts on the final output.

Copydot pages	How to process
Ready-to-impose Copydot pages or pages containing only Copydot, for example, two half-page Copydot ads	Bypass the Brisque and import the pages directly into Prinergy.
A page that is primarily Copydot but that needs only folio numbers, reader service numbers, or similar information added, or even a partial Copydot page that is combined with editorial information (pure text).	Consider whether the non-Copydot content requires processing by the Brisque. For example, if there are no knockouts or if Prinergy trapping would suffice, use Prinergy instead of taking the file through the Brisque.
Copydot images mixed with significant non-Copydot content (partial page Copydot).	Use the Brisque. If you do this, you must ensure that the Copydot resolution matches the intended final output resolution to avoid moiré artifacts. For example, if the Copydot content is scanned at 2540 dpi, you must resample the Copydot page using a Copydot tool (such as Copydot Toolkit) to 2400 dpi prior to bringing the page into the Brisque. Resampling at either the RIP stage, the conversion to PDF stage, or at the final output stage will yield moiré artifacts. For example, to output CT/LW without moiré artifacts, you must use 2400 dpi Copydot content, RIPed to 2400 dpi LW, converted to 2400 dpi PS/PDF, and output to 2400 dpi device.

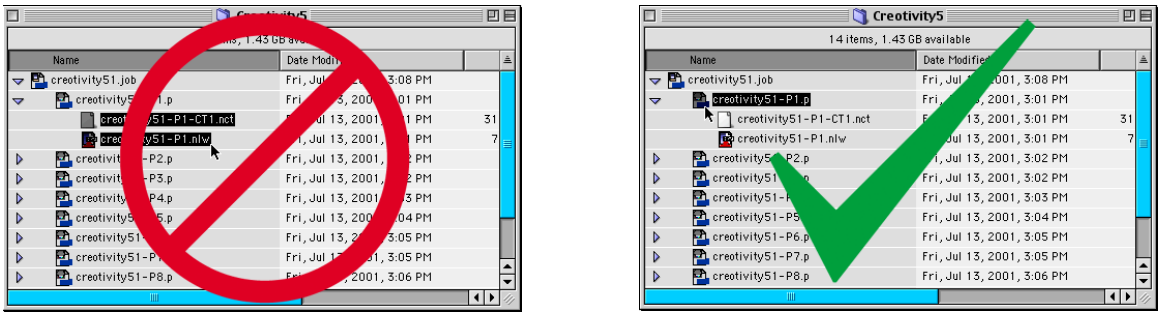
General Guidelines for Writing CT/LW Data to Removable Media

To reduce the possibility of corrupting data, follow these guidelines when writing CT/LW files to removable media, such as a CD.

Writing Files to Removable Media on a Macintosh Computer

1. Ensure file names do not exceed 31 characters. Mac OS cannot read file names that exceed 31 characters.
2. Select the entire job folder to copy, not just the individual page components or files. Selecting the contents of the job folder instead of the folder itself and copying the files to removable media will result in a page that cannot be processed because the job's assign file will be missing. The assign file is located within the folder structure but is not visible on the Mac or Brisque. If you are using a Brisque or a PS/M version 5 or later, it will automatically create a hidden assign file when RIPing. The assign file is necessary for processing the CT/LW page.

Figure 1 Selecting the entire job folder structure



3. In the CD-burning software, enable the **ISO 9660 format** and **Macintosh filenames** settings, if available. If the filenames on the final CD appear in uppercase letters and truncated, the pages on the CD will not be usable.

Writing Files to Removable Media on a Brisque Workstation

1. When writing CT/LW files to removable media on a Brisque workstation using TransferPro software, disable the **Text Filter** setting.
2. As with writing files on a Mac, select the entire job structure when copying to removable media to ensure the assign file is included.

Merge separated CT/LW pages on the Brisque

Merge separated CT/LW pages on the Brisque before sending the pages to Prinergy for processing. Separated CT/LW pages can be identified by their multiple LW files. Separated CT/LW pages will fail through the CEPS JTP as well as other products such as CEPSLink. To merge separated CT/LW to composite CT/LW, use the **Merge** function on the Brisque or PS/M before bringing the pages into Prinergy for processing.

This option has no visible impact on final output and is recommended for use with all separated CT/LW files.

There are two reasons the CT/LW may be separated:

- Separated PostScript going into the Brisque. This is the most common cause.
- Too many LW colors. There is a limit of 64,000 colors in the NLW specification. If the NLW is very complex, then the Brisque may have separated the CT/LW. If you can't merge the CT/LW because of this limitation, then you should try some of the other techniques, such as RIPing vignettes to CT. This will avoid separating the CT/LW as well as improve output performance.

Detect excessively complex pages

There is a class of very complex pages that may still fail conversion in the CEPS JTP. These pages are identifiable by:

- CT/LW that is separated (multiple LW files) and which fails Merging to composite on the Brisque, or
- TIFF/IT with an HC file that cannot be opened in PressTouch (a free download from eCentral).

These pages can be caused by:

- Complex page characteristics combined with inappropriate RIP choices. Choosing different RIP settings, as outlined later in this document, may resolve this.
- PDF 1.4 style transparency using layered CTs. This can create many CT-to-CT edges. RIPing CT-to-CT borders to CT resolution will resolve this.

2. Performance Recommendations

Raster-based files will often perform slower than vector-based pages. However, there are some steps you can take to improve performance when processing through Prinergy.

Among the settings that affect performance, there are some that may adversely affect image characteristics. For example, an option may result in blurry edges where contone images overlap, or fuzzy text in screen shots. Evaluate whether the benefits of increased performance outweigh the potential drawbacks.

RIP Vignettes to the CT Layer (not the LW Layer)

When creating the CT/LW file using the Brisque RIP, RIP the vignettes to the CT layer not the LW layer. RIPing vignettes to the CT layer speeds up processing in Prinergy.

To RIP vignettes to the CT layer, enable the following settings in the Brisque RIP pane’s Vignette Handling window:

- Scitex Vignettes
- Vignette to CT (CMYK)
- Convert Vignette to PS3

This option has minimal visible impact on final output and is recommended for use with all CT/LW files.

Avoid Running Copydot Pages through the Brisque

A Copydot page that has been run through the Brisque will not perform as well as the same page processed directly out of Copydot Toolkit, or processed as non-CT/LW content through the Copydot JTP. See also *Avoid Running Copydot Pages through Brisque When Possible.*

Set CT on CT Border to CT Res in the Brisque RIP

You can set **CT on the CT Border** to **CT Res** in order to increase Prinergy processing performance. Do this in the Brisque RIP pane's CT Handling window.

This may negatively affect your final output quality, as edges will be fuzzy where contone images overlap. Implement this option only if this reduced output quality is acceptable.

Note: If the Brisque template you are using contains an FAF (trapping) atom as well as the RIP atom, you might have to change the FAF settings in order to be able to select **CT Res** at the RIP stage.

Set Screengrabs to CT Res in the Brisque RIP

You can set **Screengrabs** to **CT Res** in order to increase Prinergy processing performance. Do this in the Brisque RIP pane's CT Handling window.

This may negatively affect your final image output quality, resulting in fuzzy text in the screen captures. Implement this option only if this reduced output quality is acceptable.

Avoid HC Components When Creating TIFF/IT Pages

If possible, avoid creating HC (high-resolution contone) files when creating TIFF/IT pages. HC components may process very slowly through Prinergy. If you must include HC components, try to minimize the amount of data that they contain. For example, avoid photograph-like content. Text and flat tints in the HC are acceptable. Specific instructions for avoiding HC components, or minimizing the amount of data included, are software-dependent.

Some general guidelines to follow are:

- Set **CT on CT borders** to **CT Res.** HC components may be created when high-resolution borders exist between contone images.
- RIP vignettes to the CT layer.

As with the CT/LW file format, these settings may negatively affect the output, depending on page characteristics. Use these settings only if the benefits of increased performance outweigh the drawbacks.

3. Artifact Elimination Recommendations

Raster-based files can be prone to artifacts on the final output without proper page preparation. (An artifact is an unexpected element, usually a single-pixel black or white line.) High-resolution loose page proofs may not show artifacts although a high-resolution imposition proof often will. Here are some recommendations for reducing artifacts.

Ensure That LW and Output Resolution Match When Imaging

Before submitting pages for final output, make sure that the LW resolution matches the final output device resolution. If the LW resolution doesn't match the output device resolution, Prinergy will have to resample the LW data at the output stage, which may introduce artifacts.

You can set the LW output resolution on a Brisque when creating CT/LW pages. For example, if you are outputting to a 2400 dpi Trendsetter, RIP your pages to CT/LW with the LW resolution set at 2400.0 dpi (94.48819 dpm). Or, you can set the LW by refining the CT/LW file with a Refine process plan with the CEPSConversion JTP enabled and set to resample at the appropriate LW resolution. Use the Prinergy Process Plan Editor to create or edit a Refine process plan.

RIPing to the device resolution has no visible impact on final output and is recommended for use with all CT/LW files. Setting the LW resolution on a Brisque, that is, creating CT/LW at the correct resolution, is preferable to setting it in Prinergy where you resample to correct resolution at the conversion stage. Resampling to at the conversion stage may have a slight visible impact, since resampling errors may occur.

Avoid Running Copydot Pages through the Brisque

A Copydot page that has been run through the Brisque will be susceptible to moiré artifacts unless extreme care is taken. See also *Avoid Running Copydot Pages Through Brisque When Possible.*

Using the CEPS JTP

LW resolution: If possible, RIP LW to 2400 dpi (94.48819 dpm). Always resample at the CEPS JTP stage of your Refine process plan to ensure the resolution is correct.

Using PDF2Go on Brisque Version 3

CT resolution: Should be set to a dpi that converts easily into PostScript points. Recommended settings in dpi are: 300 dpi (11.81102 dpm), 320, 360, 375, 400, 450, 480, 500, 576, 600, 720, 750, and 800. This option may have a very slight negative impact your final output quality due to lowered CT resolution. If possible, RIP CT to 300 dpi. Always resample at the PDF2Go stage as well to ensure the resolution is correct.

LW resolution: If possible, RIP LW to 2400 dpi (94.48819 dpm). Always resample at the PDF2Go stage to ensure the resolution is correct

Using PDF2Go on Brisque Version 4

LW resolution: If possible, RIP LW to 2400 dpi (94.48819 dpm). Always resample at the PDF2Go stage to ensure the resolution is correct

Using ExportPS – Any Version

ExportPS is not currently recommended for bringing pages into Prinergy. However, if using ExportPS, extreme caution must be taken at the RIP stage, that is, at CT/LW creation, to ensure that the LW resolution matches the intended device resolution, for example, 2400 dpi (94.48819 dpm). This is because ExportPS does not resample the page. Sending an ExportPS page with the wrong resolution for output in Prinergy, that is, resampling at the output stage, can introduce artifacts.

Using the PostScript Bypass feature is recommended to avoid artifacts on final output when importing ExportPS DCS files into Prinergy. Contact your Creo representative to set this up.

Sample Recommendations for Processing CT/LW

These are sample recommendations for RIPing CT/LW through Prinergy to a 2400 dpi device.

Option	Advantages	Potential Drawbacks	When to Use
RIP: LW resolution = 2400.0 dpi (94.48819 dpm)	Reduces the potential to introduce artifacts.	None if page is RIPed to correct resolution. May result in very slight image quality degradation if resampling at conversion stage.	Always (recommended).
RIP: CT resolution = 300.0 dpi	Reduces the potential to introduce artifacts when using PDF2Go on Brisque 3.	May result in very slight image quality degradation.	Always when using PDF2Go on Brisque 3.
RIP vignettes to CT layer, not LW layer.	Speeds up processing time in Prinergy.	May result in very slight image quality degradation.	Always (recommended).
In the Brisque RIP, set CT on CT Border to CT Res.	Speeds up processing time in Prinergy.	In the final output, may result in fuzzy edges where contone images overlap.	When processing speed is more important than crisp edges in the final output, or when a page is too complex to refine otherwise.
In the Brisque RIP, set Screen Grabs to CT Res.	Speeds up processing time in Prinergy.	In final output, may result in “fuzzy” text in screen captures.	When processing speed is more important than clearly defined text in screen captures.
Avoid running Copydot content through Brisque.	Speeds up processing time in Prinergy and eliminates several opportunities to introduce moiré artifacts. Allows use of Copydot JTP.	Partial page Copydot inputs might require Brisque processing. Copydot must be correct resolution prior to entering Brisque.	Whenever possible (recommended).
Avoid HC components when creating TIFF/IT sets. If you must include HC components, try to minimize the amount of data that they contain.	Speeds up processing time in Prinergy.	Final output quality may be affected. Specifics depend on page characteristics.	When processing speed is more important than various aspects of final output quality.

About Creo

Creo is a world leader in solutions for the graphic arts industry. Core product lines include image capture systems; inkjet proofers; thermal imaging devices for films, plates and proofs; professional color and copydot scanning systems; and workflow management software. Creo is also an Original Equipment Manufacture supplier of on-press imaging technology, components for digital presses, and color servers for high-speed, print-on-demand digital printers.

© 2002 Creo Inc. The Creo product names mentioned in this document are trademarks or service marks of Creo Inc. and may be registered in certain jurisdictions. Other company and brand, product and service names are for identification purposes only and may be trademarks or registered trademarks of their respective holders. Data is subject to change without notice.