

# **Software Product Description**

**(Version 7.5.542.0, May 05<sup>th</sup>, 2009)**

**Prinect MetaDimension 7.5.1**

**Revision 7.5.542.0**

**May 2009**

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## Preface

You will find the legal Software Product Description of Prinect MetaDimension 7.5 in the Heidelberg Sales Portal.

Prinect MetaDimension 7.5 unites the features of Prinect MetaDimension 7.0

## Prinect MetaDimension 7.5 Overview

Prinect MetaDimension offers support of Computer to Plate recorders with the necessary tools, e.g. color dependent calibration, proofing, CIP3 support and Contone as well as layout proof support. Film recorders are supported too.

The following features are new in Prinect MetaDimension 7.5.1:

- ColorProof Pro supports now Epson X900, Canon iPF 810/820/6200/6000s and HP 510
- Screening Editor for generation of customer defined raster systems
- MetaDimension Prep and Proofstation are released for MS Windows 2008 Server 64 bit

The following features are new in Prinect MetaDimension 7.5:

- Extended device status messages
- Improved job control by Prepressmanager
- Paper Stretch Compensation with maximum of 9 reference points
- New user interface for Scatter Proof
- Performance optimization for “Step and Repeat” with PDF Print Engine
- Support for generation of TIFF-B data for Suprasetter 145, 162 and 190

Known features from Prinect MetaDimension 6.5:

- System installer for complete system by script
- New License Servers
- Vista Business 32 bit operating system support
- Improvements by „urgent“ job output
- Improvements by the parametrisation of PPF files for MAN, Komori and KBA systems
- Device status messages from MetaDimension 7.0 or MetaShooter 4.0 to Prepress Manager 4.0
- Adjustment of minimal/maximal rasterpoint size for IS Classic
- Rasterapplication for generation of customer raster systems for lenticular raster
- NewPantone tables
- Support of PDF Print Engine
- Paper Stretch Compensation
- Color Proof Pro with support of new proofer and with faster proof output
- Support of Suprasetter A 74 and Suprasetter A 52
  - Room proof functionality (**R**ip **o**nce **o**utput **m**any).
  - Additional interpreter for proof output.
  - Navigator window in the image viewer.
  - TIFF-B bitmap representation in low and high resolution.
  - Calibration Manager 2.5 with new standard mode.
  - Prinect Hybrid Screening, new AM screening system.
  - Prinect Stochastic Screening, new FM screening system.
  - Object Screening in combination with Prinect PDF Toolbox.
  - User management with 4 user classes.
  - Software will be delivered on DVD, installation needs DVD drive
  - Suprasetter A 105 support.
  - Speedmaster DI connection support.
  - GUIDE user interface for Prinect MetaDimension.
  - Prinect MetaDimension / CP2000 Integration.
  - JDF workflow integration of Prinect MetaShooter via Prinect MetaDimension

- Proof output of control strips with/without color management (Fogra media strip also).
- Enhanced spot color proof output.
- N-Color support for proof jobs sent from Prinect Prepress Manager
- Support of CMM library 4.0.
- Conformity check for PDF/X data.
- Support of Microsoft operating systems Windows 2000 Server, Windows Server 2003 with service pack 1, Windows XP Professional with service pack 2.

Additional features from previous Prinect MetaDimension versions:

- Support of Quickmaster DI and Quickmaster DI ProSpot.
- Bitmap data preview.
- Color Proof Pro Engine Manager for Canon, Epson, and Roland proofer support.
- Output Plan Editor integrated in Web user interface.
- Output Plan Server Pool.
- Satin Screening.
- PDF/X3 Support.
- TIFF/IT P1 Support.
- Delta Flow enhancements, change of resolution and orientation, page positioning, CIP3 computation and Delta List proof.
- PDF Export for remote proof data exchange.
- File Based Device Interface (FBDI) to support third-party recorders.

Prinect MetaDimension 7.5.1 runs also under Windows 2003 Server SR2 and with ServicePack2 and under Windows XP Professional with ServicePack 3. Prinect MetaDimension 7.5 runs under operating system MS Vista Business 32 bit and MS Server 2008 64 bit.

Suprasetter, Suprasetter A and Prosetter recorder with direct connection to MetaDimension are not released for Vista Business 32 bit and MS Server 2008 64 bit operating system .

Topsetter recorder with direct connection to MetaDimension are not released for MS Server 2008 64 bit operating system .

Under Vista parallel direct access to shares is allowed up to maximal 10 times by computer or users.

Prinect MetaDimension 7.5 was tested with Symantec Endpoint Protection 11.0.1000.1375 antivirus software.

## Workstations

### ***Hardware basics for Prinect MetaDimension 7.5***

Heidelberg's Prinect MetaDimension 7.5 software has successfully been tested on a reference technology platform. We assume that the reference-based test results can be assigned to other, likewise equipped IT platforms as well. No tests were performed with platforms beside the reference technology platforms and full functionality cannot be guaranteed. Nevertheless, Heidelberg support will be provided only for the current releases of a Heidelberg licensed application software running on the reference system platform. Thus, only those application problems may be supported which are reproducible on the reference platform.

For Prinect 2008.5 MetaDimension 7.5 qualified DELL reference platform have the following Heidelberg names:

HD Workstation T7400-C23 or HD Server T300-S6 for MetaDimension 7.5 for direct output on Suprasetter A105, Prosetter 74 and 102 or MetaDimension Prep Station 8 up

HD Workstation T3400-C11 is suitable for direct output to Suprasetter A52 und Suprasetter A75

HD Server 2900-S11 and additional hard disk is released for direct output to Suprasetter 75 and 105. Maximal performance cannot be guaranteed. To reach maximal performance at any time MetaShooter is needed for output to Suprasetter 75 and 105.

These hardware systems are the reference platforms.

Another DELL platform was qualified during field test:

### **Prinect MetaDimension Reference Station DELL Power Edge 2900,**

mit folgender Ausstattung:

- Two Dual CoreXeon130, 2.0 GHz
- 4 GB RAM
- Three 68,4 GB Hard Disks Drives

The hardware systems released with MetaDimension 6.5 are now minimum hardware required.

- Motherboard ASUS P5B
- Prozessor Intel Core2Duo E6600 / 2400 MHZ, 2 MB Cache
- 3048 MB RAM
- 2 \* 160 GB SATA2 /7.200 GB Hard Disk
- Graphic Board PCI-X Radeon X300SE 128MB DVI / VGA - separate Graphic Board needed
- Network interface adapter Intel Pro/100 M Desktop

### **Prinect MetaDimension Reference Station x225,**

basierend auf IBM xSeries 225 in folgender Ausstattung:

- Two CPUs Intel Pentium 4, 3.06 GHz
- 3 GB RAM
- 3\* 73,4 GB Ultra 320 10k RPM SCSI Hard Disk Laufwerke
- Wide Ultra 320 SCSI Controller (onboard)
- Grafik-Controller 8 MB (onboard).

### **Prinect MetaDimension Reference Station x226,**

basierend auf IBM xSeries 226 in folgender Ausstattung:

- Zwei CPUs Intel Pentium 4, 3,2 GHz
- 3 GB RAM
- 3-6\* 73,4 GB Ultra 320 10k RPM SCSI Hard Disk Laufwerke
- Wide Ultra 320 SCSI Controller (onboard)
- Grafik-Controller 8 MB (onboard)

For the connection of Quickmaster DI we recommend the use of the Prinect MetaDimension Reference Station x225. For additionally required hardware components see service information SVI 00.996.0409.

For the connection of Speedmaster 74 DI we recommend the use of the Prinect MetaDimension Reference Station x225. For additionally required hardware components see Service Information SVI 00.996.0409.

Attention: For hardware platforms which do not correspond to the specifications of the Prinect MetaDimension Reference Stations or other hardware revisions as mentioned above in this chapter the productivity (performance and throughput) of Prinect MetaDimension 7.5 can not be guaranteed.

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## CtF and CtP Devices connected to Prinect MetaDimension 7.5

### **Duosetter**

2-up in-drum film recorder.

Hardware connection is established via HDPP PCI board with TAXI interface (PCI-SDW-IF3).

Software connection is established via Speedway Engine Manager with GDAPI 2.0 interface.

### **Herkules**

4-up in-drum film recorder

Hardware connection is established via HDPP PCI board with TAXI interface (PCI-SDW-IF3).

Software connection is established via Speedway Engine Manager with GDAPI 2.0 interface

Herkules Basic, Pro, Elite are supported.

### **Primesetter 74, 102**

4-up and 8-up in-drum film recorder

Hardware connection via HDPP PCI board with LVDS interface (PCI-SDW-IF2).

Software connection is established via Speedway Engine Manager with GDAPI 2.0 interface.

### **Prosetter 52, 74, 102, 102F and all Variants with SCL or MCL**

2-up, 4-up und 8-up in-drum plate recorder.

SCL: Single Cassette Loader.

MCL: Multi Cassette Loader.

Hardware connection via HDPP PCI board with LVDS interface (PCI-SDW-IF2) or via 3.3V PCI board with LVDS interface (PCI4GEN3).

Software connection is established via Speedway Engine Manager with GDAPI 2.0 interface.

### **Suprasetter 74, 75, 102 and 105 with all Variants SCL or MCL**

4-up and 8-up external drum plate recorder

SCL: Single Cassette Loader

MCL: Multi Cassette Loader

Hardware connection via 3.3V PCI board with LVDS interface (PCI4GEN3)

Software connection is established via Speedway Engine Manager with GDAPI 2.0 interface.

Speedway Control Manager Version 8.05 or newer version is needed

### **Suprasetter 145, 162 and 190 (Connection via Prinect MetaShooter 4.0 / 4.5)**

Hardware connection via GIPB 00.785.1351/01 board in Prinect MetaShooter PC

Software connection is established via GDAPI 2.0 interface and Consupra Container Software 1.01

### **Suprasetter A 52, A 75 and A105 with APL**

4 and 2 -up external drum plate recorder

APL: Auto PlateLoader

Hardware connection via 3.3V PCI board with LVDS interface (PCI4GEN3).

Software connection is established via Speedway Engine Manager with GDAPI 2.0 interface.

### **Topsetter Family 74 and 102**

Prinect MetaDimension 7.5 will support the following Topsetter recorders:

Topsetter 74, 74 SCL/MCL, P74

Topsetter 102, P 102, P 102 SCL/MCL, PF 102, PF 102 SCL/MCL

SCL: Single Cassette Loader

MCL: Multi Cassettes Loader

Hardware connection via custom PCI board from Screen with PIF interface (PIF board ADC1/5V revision F or PP66/3.3V);

Software connection is established via Topsetter Engine Manager with GDAPI 2.0 interface.

The Topsetter 74 MCL/ 102 MCL will also be supported and released with multi-cassette.

Topsetter 102 MCL is a multi-cassette device, which offers online access to several cassettes. These cassettes can supply several different materials and formats.

### ***SCL/MCL Loader for Prosetter, Topsetter***

For attaining the optimal performance, a "preload" of plates is required.

In the Prinect MetaDimension Output Plan Editor you can select the different materials for exposure. The assignment of materials to the cassettes is chosen beforehand on the control unit of the recorder. The generated job ticket will be attached to a Virtual Printer, so that each print queue uses a specific material.

During exposure the material, which was assigned to the Virtual Printer, is transferred to the recorder where a special cassette is automatically being selected.

The "preload" of the next following plate is implemented both within a color page and above job limits.

### ***Quicksetter 46***

The Quicksetter 46 is a Capstan-CTF device with different film widths (350mm, 400mm, and 460mm).

Hardware is connected via standard PCI board with SCSI interface, Adaptec 2906.

Software connection is implemented via Quicksetter Engine Manager with GDAPI 2.0 interface.

Quicksetter 46 is not supported under Windows 2003 Server operating system.

## **DI Connection**

### ***Speedmaster 74 DI***

The software connection is implemented using GDAPI 2.0 interface. The Speedmaster 74 DI connection is implemented according to the "Digital Offset Press (DOP) TIFF interface 1.2", and the variant file for "MachineType=SM74DI".

For Speedmaster 74 DI special bitmap files and CIP3 files for ink zone presetting are generated and transmitted to special output directories. The output directories and the bitmap files on the RIP system can be accessed via Ethernet by Speedmaster 74 DI. The transfer of the bitmap and CIP3 data is started from Speedmaster 74 DI console.

For the connection of Speedmaster 74 DI we recommend the use of Prinect MetaDimension Reference Station x225. For additionally required hardware parts see service information SVI 00.996.0409.

### ***Quickmaster DI***

The software connection is implemented using GDAPI 2.0 interface.

The Quickmaster DI connection is implemented according to the "Quickmaster DI Bitmap Interface 1.1", and the variant file for "MachineType=QMDI46".

For Quickmaster DI special bitmap files are generated to special output directories. The output directories and the bitmap files on the RIP system can be accessed via Ethernet by Quickmaster DI. The transfer of the bitmap data is started from Quickmaster DI console.

For the connection of Quickmaster 46 DI we recommend the use of Prinect MetaDimension Reference Station x225. For additionally required hardware parts see Service Information SVI 00.996.0409.

## **User Management**

In Prinect MetaDimension 6.1 a user management was added. It contains four right categories/groups:

- Administrator rights
- Poweruser rights
- User rights
- Guest rights

The rights of the users are only dependent on the right category/group assignment.

The user rights can be managed locally within Prinect MetaDimension. If a Master Data Store is available, a global Prinect user management can be implemented.

## **Proofer connection in Prinect MetaDimension 7.5**

### ***Short description***

Intention of this function is the connection and operation of proofing devices with Prinect MetaDimension. The function contains two components:

- The Proofing Engine Manager for the connection of color and form proof devices with a low resolution (so-called half tone proofers, typically < 1200 dpi)
- Specific functions for the form proof, proof output and color management within the Prinect MetaDimension architecture.

License fee is required for some of these functions. A dongle and license keys protect these features.

### ***Function and feature description***

The Proofing Engine Manager supports the following output modes:

- Concept Proof
- Proof Open

Concept Proof and Proof Open describe the kind of the output device connection. Concept Proof represents the basic connection using the Windows printer driver interface.

### ***Concept Proof***

Concept Proof provides the simple output to a color or black and white printer which uses the Windows driver interface. Except for the use of Color Management based on the Heidelberg CMM and the PDF/PostScript interpreter no other Heidelberg components are used, especially no Heidelberg screening. Concept Proof doesn't limit the sheet format of the connected printer and can therefore be used also for one-side press sheet output.

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This kind of connection offers the following advantages and disadvantages:

- ☺ Connection of color and Windows capable output devices.
- ☺ Connection of future output devices should be possible easily.
- ☺ No driver development required.
- ☺ No certification of device drivers by Microsoft.
- ☺ No screening development.
- ☺ No adaptation on more than four process colors (e.g. Epson with 6 colors).
- ☹ Driver adjustments on Windows operation system change the result.
- ☹ Output quality depends on the screening implemented by the printer manufacturer.
- ☹ An RGB driver leads to additional color space transformations, i.e. a transformation to the RGB color space is mandatory.
- ☹ GCR is performed by the driver

The release is valid only for one reference device: Epson Stylus 5000.

### ***Proof Open***

Using the Proof Open option TIFF, JPEG, PostScript and PDF/X3 data can be generated and provided for further workflow steps. The Proof Open behaves as an independent device and can be parameterized in the Engine Manager.

The following data formats are supported:

TIFF, JPEG and PostScript

- CMYK
- RGB

PDF/X3

- CMYK

For TIFF and PostScript additionally are supported:

- CMYK and spot colors

In each color space additionally one of the following format specifications may be defined for TIFF:

- Pixel interleaved      uncompressed, PackBits- and LZW compressed
- Line interleaved      uncompressed, PackBits- and LZW compressed
- Plane interleaved      uncompressed, PackBits- and LZW compressed
- Stripes                  uncompressed, PackBits- and LZW compressed
- Tiling                    uncompressed, PackBits- and LZW compressed

Additionally the spot colors are converted to process colors if the corresponding parameters are set.

TIFF and PostScript export of multipage documents can be generated to one or multiple files.

PostScript export can be binary, hex-coded in PostScript Level 1, ASCII 85-coded in PostScript Level 2 or flate compressed in PostScript 3.

PDF/X3-files consist of ripped pages in CMYK contone format that have selectable resolutions 150-, 180-, 300-, 360-, 600-, or 720-dpi and the ICC profiles used for the color space transformation.

### ***Scatter Proof***

Scatter Proof functionality can be used for proof output.

To avoid waste of proof material, several pages are placed optimized on one sheet. Scatter proof cannot be parameterized with PDF/X3 export.

### ***Step and Repeat Mode***

For proof output additional the new “Step und Repeat” function is available. Single pages will be multiple positioned side by side and one upon the other on the sheet.

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### ***Test Form Output***

With Concept Proof and Proof Open you can select a test form from the Engine Manager user interface and send it to the proofer. The proof can be used to calculate an ICC profile.

### ***Specified functions for the form proof***

The options of the page policy for the proofer format are effective when the resultant job format is larger than the format of the proofer. This means that in the case of a page proof the resulting format is the page format, in case of the form proof the resulting job format is the layout format.

Available options:

- Abort the job: There is no format adaptation; the job will be aborted with an error message.
- Reduce to fit: The job format will be adapted to the output format by scaling.
- Clip to max. Page: From the center of the job format an unscaled section will be exposed.
- Tiling: The job will be exposed on several sheets. For tiling optionally an overlap area and crop marks within the overlap area can be defined. This allows an easy assembling of the sheets. Another option allows rotating the job in order to reduce the number of the required sheets. A further option allows centering the job in order to expose the job regular on all sheets.

### ***Proof Control Strips***

For quality approval a special proof control strip is available which optionally can be added to the proof output. It is possible to use other proof control strips (e.g. Fogra Media Strip). The proof output of the control strips can optionally occur with or without color management.

### ***Proof with more than four Process Colors (N-Color Proof)***

The proof functionality is limited to four process colors within Prinect MetaDimension if Prinect MetaDimension is used stand-alone. If a job contains more than four process colors, e.g. orange and green as fifth and sixth color with Hexachrome, these colors are handled like spot colors.

Color Management for more than four process colors can be achieved for proofs coming from a Prinect Prepress Manager System. This is not valid for Concept Proof.

## **ColorProof Pro Connection in Prinect MetaDimension 7.5**

### ***Overview***

Intention of this function is to connect proofing devices to Prinect MetaDimension. Color Proof Pro supports Canon, Epson, HP, OKI, Encad, and Roland proofers. The coupling is more generic and not like the direct mode implemented in the Proofing Engine Manager. The advantage is the greater range of available printers and that it is easier to add new proofers to the system. The connection to the proofer is realized either by TCP/IP or by the Windows driver provided by the manufacturer.

### ***Functions and features***

The Color Proof Pro Engine Manager is available in the following license modes, based on the maximum proofer format:

- Color Proof Pro 2up
- Color Proof Pro 4up
- Color Proof Pro 8up

Color Proof Pro offers the following advantages:

- 
- ☺ Connection to many different Color Proof devices.
  - ☺ Wizard driven linearisation of own papers.
  - ☺ Wizard driven fast correction of own linearization data set either visually or by measurement if proofer shows time-dependent changes.
  - ☺ Profile Keeper to link paper linearization data with ICC profiles.
  - ☺ Standard profiles for a lot of proofer/papers/inks configurations.
  - ☺ The features implemented in Prinect MetaDimension (e.g. Scatter Proof, step and repeat mode, and Output plan options) are features for all proofers which are supported.

New features in Color Proof Pro 3.0 coming with MetaDimension 6.5:

- ☺ Support of new Color Proof devices from Canon and HP with up to 12 inks
- ☺ Shorter Proof times when RIP processing with reduced resolution is chosen

## Room Proof Functionality and Workflows in Prinect MetaDimension 7.5

### Overview

The Room Proof functionality (**Rip Once, Output Many**) operates on the basis of the high-resolution TIFF-B data for final output. The computed and, where appropriate, calibrated and linearized data are descreened, and the contone data resulted in such a way are output as a proof. This step is parameterized in the Output Plan.

After the proofing step the high-resolution data are output to the final output device via Prinect MetaShooter. In this case, the data are not computed again, but the TIFF-B data already computed are used for output.

Within the Prinect MetaDimension 7.5 development framework the implementation of a Room Proof workflow was postulated. With it the following workflows are realized:

- Prinect MetaDimension stand-alone.
- Prinect MetaDimension Prep and Prinect MetaDimension Proof Station.
- Prinect Prepress Manager - Prinect MetaDimension (Released together with the release of Prinect Prepress Manager 3.0).

In the Prinect MetaDimension Prep workflow with output on the Proof Station, the TIFF-B data computing is done on the Prinect MetaDimension Prep Station, and the descreening is done on the Proof Station.

For this functionality the following license options must be released: TIFF-B export and Room Proof. In the case of, that the proof is done on the Proof Station, on this computer the ROOM Proof and additionally the TIFF import options must be released.

## Prinect MetaDimension 7.5 Proof Station

Prinect MetaDimension 7.5 Proof Station is based on the Prinect MetaDimension 7.5 version and is able to drive proof devices only. As Prinect MetaDimension is a separate product which is sold by a cheaper price compared to Prinect MetaDimension 7.5, no output to film or CtP recorders can be executed with Prinect MetaDimension 7.5 Proof Station.

The Prinect MetaDimension software must be installed the same way for both products. The Proofing Engine Manager must be installed subsequently. If an Engine Manager for a CtF or CtP recorder is installed and a job is sent, a message box will come up and no output can be achieved.

When Prinect MetaDimension 7.5 Proof Station is started, all proofing devices are available. Beside that softproof, concept proof and TIFF export (contone) can be used. More than one proofing device can be

connected to Prinect MetaDimension 7.5 Proof Station. It is possible to have a softproof in advance before starting proofing on e.g. HP Designjet 5000.

Special output plans exist for all proofing devices. Page Positioning and Duplex (if the appropriate device options of HP Designjet 10PS, 20PS and 50PS are available) are supported.

For the Room proof functionality a release of the TIFF-B import and the Room proof options on the Proof Station is required.

The user has to take care of compatibility of parameters, fonts and output data on both stations Prinect MetaDimension 7.5 Proof Station and Prinect MetaDimension 7.5 server.

## **TIFF-B Export Functionality**

Prinect MetaDimension 7.5 supports export of screened bitmaps in TIFF-B format. This will allow rendering jobs offline on a Prinect MetaDimension system and outputting the screened bitmap to a Prinect MetaShooter or to a third party device using TIFF-B downloading mechanism if available for this recorder.

The following TIFF-B formats are supported:

- 1 Bit / single stripe
- 1 Bit / multiple stripes

TIFF-B files can be uncompressed or compressed. The following compression formats can be chosen:

- CCITT G3
- CCITT G4
- LZW
- Packbits

Resolution can be selected from the list of discrete resolutions.

The following discrete resolutions are available:

5080 dpi	1800 dpi
4064 dpi	1693 dpi
4000 dpi	1600 dpi
3386 dpi	1270 dpi
3200 dpi	1200 dpi
2540 dpi	1016 dpi
2400 dpi	1000 dpi
2032 dpi	846 dpi
2000 dpi	600 dpi
	300 dpi

The maximally computable formats depend on the device where the data should be output. Additionally the maximum format may depend on the file size of the operating system and the available hard disk space.

Calibration curves are computed into the TIFF-B data.

Spot colors can be exported as separate planes. The maximum number of supported spot colors is 32.

TIFF-B export is released only for Heidelberg screening.

Support of TIFF-B export is limited to the generation of the TIFF-B file. Support does not cover correct imaging on the third party device and third party workflow.

The test was performed with Prinect MetaShooter 3.1.

TIFF- B export functionality is a format dependent option.

TIFF-B 2-Up:	max. 680 x 680 mm
TIFF-B 4-Up:	max. 845 x 735 mm
TIFF-B 8-Up:	max. 1175 x 955 mm
TIFF-B VLF:	not limited

## Paper Stretch Kompensation

During Web- and sheetfed offset printing it can happen that the paper will be stretched during the printing process. The separations for the different colors will have an offset due to the deformation of the paper..

The functionality Paper Stretch Compensation calculates bitmaps which will compensate the impacts of the paper stretch. This functionality is optional.

The calculation can take place "on the fly" during output or can be incorporated in the TIFF-B calculation during TIFF-B export.

## Prinect MetaShooter 4.5 Connectivity

With Prinect MetaDimension 7.5 you can send TIFF-B data exported from the TIFF-B Engine Manager to Prinect MetaShooter 4.5 with additional information using the "File Based Device Interface" (FBDI).

There are two ways to do this using FBDI:

- Unidirectional:  
In addition to the TIFF-B data some exposure parameters and the information which TIFF-B files belong to one job (job bracket) are transmitted. In Prinect MetaDimension the job status switches to "completed" as soon as all TIFF-B files are generated.
- Bidirectional:  
In addition to the unidirectional mode the job is controlled till the end of the exposure on Prinect MetaShooter. The job status in Prinect MetaDimension switches to completed when the plates are exposed or the job was canceled.

## Printmanager Import Formats

The following data formats can be processed by the Prinect MetaDimension 7.5 Printmanger if files are put into a hot folder:

- PS 3
- PDF 1.3
- PDF 1.4
- PDF 1.5
- PDF 1.6
- PDF 1.7
- TIFF
  - CMYK
  - RGB

Additionally every format may have one of the following specifications:

- Pixel interleaved uncompressed, LZW compressed, PackBits compressed
- Tiling                      uncompressed and LZW compressed

- TIFF-B  
TIFF-B can have one of the following format specifications:
  - LZW
  - CCITT
- Delta Lists generated with Delta Tech 7.0/7.5 /8.x
- JPEG
- EPS
- Scitex CT
- TIFF/IT-P1  
TIFF/IT jobs consists of different TIFF files (FP/HC/LW/CT). There are no differences between normal TIFF jobs and TIFF/IT-CT component. For automatic processing in Prinect MetaDimension 7.5 it was fixed that TIFF/IT jobs have to be copied to a special subdirectory under the hot folder directory and must end TIFFIT. TIFF/IT jobs are only processed if they are found in a subdirectory with this extension. This special subdirectory should only be used for TIFF/IT jobs.

## InRIP OPI Functionality

Customers can order this functionality as an option.

InRIP OPI functions:

- OPI 2.0 functionality (replacing low-res image data in the job by the corresponding high-res image data). Prinect MetaDimension can include OPI-1.3 and OPI-2.0 layout files if suitable paths for image search are defined. As of version 2.0, Prinect MetaDimension EPS layout files can also be exchanged by other OPI-1.3 compatible inclusions. As the testing was not performed for all applications, severe errors might occur for some of the applications.
- Set up and management of layout and image directories.
- Generation of layout files in EPS format with/without view files (default 72 dpi, configurable) and with/without proof images (default 300 dpi, configurable) from TIFF-S, TIFF-B, TIFF-G, TIFF-RGB (TIFF 5.0 compatible), TIFF-P, JPEG (gray, RGB and CMYK, JFIF or Photoshop compatible) and Scitex-CT (gray, RGB and CMYK).  
You can also generate TIFF layout files from TIFF images, JPEG layout files from JPEG images, and Scitex-CT layout files from Scitex-CT images.  
The view file size is limited to about 1 MB. The maximum size of the proof file amounts to about 3 MB. If the size exceeds this value, the resolution is automatically reduced.
- Generation of layout files in EPS format from EPSF, DCS-1- DCS-2 - and ICS files. If wanted, the view file - for DCS and ICS files also the proof file - can be included in the layout file. Representation of the layout files on the Prinect MetaDimension workstation (preview) for TIFF, Scitex-CT, JPEG files and Photoshop EPS files.
- Evaluation of Helios Ethershare (V3.0) and ColorCentral (V2.2) layout files also.  
Note:  
If the Prinect MetaDimension InRIP OPI is coupled to a Helios PrintServer, image inclusion in the Meta InRIP OPI will only be performed if the Helios OPI Includer did not include any other image into the job yet!
- Possibility of defining several alternative search paths for the high-resolution image files.
- Data reduction of clipped TIFF files. In the case of clipped TIFF layout files, procession is only effected for the high resolution image data currently required for exposure. No data of invisible image parts are transferred.
- Support of colored TIFF-B layout files from QuarkXPress  $\geq 3.31$ .
- Support of the "Set transparent background" function for TIFF-B layout files from QuarkXPress  $\geq 3.31$ .

Notes:

- Meta InRIP OPI cannot be used unless the option is activated by a key!

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- Freehand 8/9: for the usage of Jobstream or APP/VAPP the LaserWriter 8.6 (Macintosh) printer driver is required.
  - If Freehand 8/9 and Jobstream or APP/VAPP are used, the Macintosh LaserWriter 8.6 printer driver must be used.
  - Corel Draw 6.0: The layout files must be generated in EPS format.
  - Windows 95: If OPI is used, the file and directory names must not exceed 12 characters.
  - The Windows NT file name conventions have to be followed.
  - Usage of Helios Ethershare: No umlaut must be used in folder and file names.
  - CCITT 4 images that are embedded in a PostScript™ job are supported by the interpreter.
  - In QuarkXPress 5 and 6 the OPI extension must be deactivated.

The following applications and file formats have been qualified:

1. **TIFF formats:**

- TIFF-CMYK from Photoshop, DaVinci.
- TIFF-G (grayscale) from Photoshop
- TIFF-B (bitmap) from Photoshop
- TIFF-RGB from Photoshop, RGB not being converted for CMYK.
- 4 Bit gray scale images in addition to already supported 8 Bit gray scale images.
- 4 Bit and 8 Bit RGB palette images

Features:

- PackBits or LZW compression.
  - TIFF-B, compressed and uncompressed corresponding to CCITT T.4 / Fax G3 or CCITT T.6 / Fax G4.
  - Coherent image data in stripes or tiles.
  - Only orientation "upright", "not mirrored"
  - Layout file generation with selectable resolution between 72 dpi and 300 dpi (higher and lower resolutions are possible).
  - Proof file generation with selectable resolution between 100 dpi and 300 dpi (higher and lower resolutions are possible).
  - Preview on the Prinect MetaDimension workstation is possible.
  - Spot colors are not supported (such as TIFF CMYK + spot colors in Photoshop). However, the image may contain a maximum of 2 spot color separations.

2. **EPS-1 format:**

From Photoshop, QuarkXPress, Freehand, Illustrator, PageMaker.

Restriction:

Lowres files generated by Prinect MetaDimension InRIP OPI from EPS, DCS or DCS2 jobs may contain components for proof and preview from these images. This requires that the images in the EPS file are marked with the (%ImageData:) comment.

Linework components in EPS jobs are not supported and do not generate any proof or preview-compatible components.

If you use the "Omit TIFF and EPS" print option in Quark documents, only "Composite" is possible.

3. **DCS2 in single and multi file format**

4. **JPEG format:**

From Photoshop

Features:

- Adobe JPEG and JFIF.
- Preview on the Prinect MetaDimension Workstation is possible.
- Layout and proof as for the TIFF formats.

5. **ICS format**

From LinoColor, LinoPictureConverter with and without layout file generation.

6. **Scitex-CT format:**

CMYK from Photoshop

Features:

- Preview on the Prinect MetaDimension Workstation is possible.

- Layout and proof as for the TIFF formats.
- Up to 2 spot color separations are ignored.

**7. Support of Photoshop clip path:**

Active clip paths, which are added to TIFF, JPEG or EPS images by Photoshop, are now recognized by the Imagemanager and included into the low-res file. The clip path then can be displayed and evaluated in a layout application (QuarkXPress, InDesign). When the Printmanager replaces the low-res files with the high-res files, the clip paths are taken into account.

**8. Subfolders of image directories** can be excluded from layout generation if their name matches a specific pattern. Wildcards "\*" and "?" are supported.

**9. Low-res files** can be generated in a folder relative to the corresponding image directory. If not yet in existence, this folder is created.

**10. Image directories** mounted from a remote server via NFS or Netware on a Prinect MetaDimension workstation will be checked for new images or modified image files at regular intervals (adjustable).

**11. The use of invalid NT file names** for images leads to the generation of low-res files conforming to the DOS 8.3 naming convention. DCS files then are not allowed for the layout file creation.

**12.** Network shares are generated automatically of the local image folder or of a locally dedicated layout folder. If the folder is located within a local NTFS data system, the sharing of folders is also effected for Macintosh computers, assuming the exclusion of multiple or multilevel releases.

## TIFF-B Import Functionality

Prinect MetaDimension 7.5 is able to process and to output TIFF-B data. The data must correspond to the TIFF specification.

The following TIFF-B formats are supported:

- 1 Bit / single stripe
- 1 Bit / multiple stripe

TIFF-B files can be uncompressed or compressed. The following Compression formats are supported:

- CCITT G3
- CCITT G4
- LZW
- Packbits

The resolution of incoming TIFF-B files will not be changed and must match to one of the resolutions of the primary device connected to Prinect MetaDimension.

The format size of the incoming TIFF-B has to match to the maximum size of of the primary output device. No cropping or rotation of TIFF-B will be executed during input.

The imaging quality of imported TIFF-B files is given by the screening of the third party workflow system.

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## Calibration Manager

### *Functionality of the Tool*

Calibration Manager means all components, which are used for the calibration of CtF, CtP, DI, screen proof and devices within the Heidelberg RIP product portfolio (starting with Delta Technology 7.0 and Prinect MetaDimension 2.0).

An essential criterion is the standard look&feel in the user interface. The differences of the output devices are only reflected by different parameters in the user interface.

Especially for the DI printing presses the calibration process was optimized.

The main components are the CalTool-Server, the CalTool-GUI, and the CTSAccess-DLL.

As base technology, CORBA is used for the module communication and Java for the GUI implementation.

### **The essential features are:**

- The Calibration Manager 2.6 uses the GUIDE Look&Feel.
- Linearization as well as process calibration is supported.
- A data set for the process calibration can be created for (a subset of) CMYK plus a spot color, or for the special spot color "Any Spot color".
- In case of process calibration for CMYK, all colors can be calibrated separately, or all colors can be calibrated together. In the last case the colors can be chosen individually to define the calibration values.
- With Calibration Manager Version 2.1 it is possible to use process color calibration dataset for spot colors.
- A data set needs about 15 Kbytes.
- The number of the data sets is restricted by the hard disc capacity or the total number  $\leq 2^{32}$ .
- The data sets are organized in groups. Each group belongs to a device category. In the Calibration Manager 2.0 the groups for the linearization and the process calibration are managed separately. An output device is linked to each group. The link can be changed. With version 2.5 a "generic device" is available for process calibration. Groups linked to the generic device can be used for the calibration of
  - any CtF/CtP output device.
  - For each calibration 1...3 curves can be created for each color.
- The evaluation of the curves is done by automatic calculation of mean values and interpolation via the Print Open algorithms. In case of common process calibration of process colors there is also a mean value evaluation on the measured values.
- The administration of solid density values is also possible. The information about measurement status or about polarization filter used during process calibration can be added to the data set.
- The measured values are also accepted as density values.
- From version 2.6 on, spectral density values can be imported or read from a measurement device for calibration of spot colors. The used wave length can be stored in the data records for information purposes.
- Mean measurement curves can be smoothed based on polynom functions of fourth degree. Four variants are supported distinguished by range smoothing is performed. Moreover, another smoothing function is supported based on modified splines. There is another manual smoothing method ("2-polynom"), which can be used.
- The printing process parameters are independent calibration parameters (type of printing material, press, ink series) and are adequate parameters for the selection of the calibration curve.
- From version 2.3 on, wildcards are available for the printing parameters.
- The printing process parameters are extensible in the internal administration.
- The characteristics for tonal value transfer in a printing process, which are to be reached by process calibration, are defined by so-called process curve sets (versions  $\leq 2.2$ : "process standards"). A process curve set can comprise process curves for process colors and spot colors defining the desired dot gains of these colors. With version 2.5, tolerance values for process curves can be defined, displayed, and printed.
- The name of a process curve set is a calibration parameter by itself. It can be used as a selection parameter for searching the calibration curve.
- All calibration parameters can be specified with ranges, without modifying or deleting the original data sets.
- The data sets can be set in different modes: "active/inactive/prepared".
- Linearization can be made with regard to angles. This allows the user to accurately calibrate screening systems with fine screens.
- From version 2.6 on, the linearization of multicolor screening systems (especially with respect to different angles) is possible.

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- The process curve sets exist globally in the system and are extensible in the internal administration.
  - New ISO standards can be used by predefined process curve sets. The ISO paper types are predefined as "types of printing materials" too. The display of process curve sets and types of printing materials can be restricted to ISO-compliant values.
  - Supported spectrophotometers for process calibration: COM-port: XRite-DTP32 and XRite-DTP41, Xrite QuickCal and hand held spectrophotometer XRite 520/528/530, GretagMacbeth D19C/D196, GretagMacbeth SpectroEye, GretagMacbeth SpectroLino, GretagMacbeth SPM, Techkon SP8x0 and Techkon R410/R410e. USB: XRite-DTP41 USB, XRite-DTP45, GretagMacBeth EyeOne.
  - Supported plate measurement devices for linearisation: GretagMacbeth iCPlate I und iCPlate II, X-Rite CCDot.
  - An import function for calibration data allows using the existent data of the Delta calibration. E.g. datasets of the manual calibration from ipr- and mcp-files can be imported (linearisation). Curves of pca files can be imported as values for the datasets of a process calibration.
  - A Harmony import function exists, which can import and evaluate the values of the current curves and the target curves. (See also data set for process calibration, process curve). The Harmony import function does not require the use of the Harmony access DLL. This function supports the Harmony versions 1.1 and 1.2 with the appropriate databases.
  - There exists an import function for measurement files from CPC 24 (ImageControl).
  - For import and export one can use a browser looking to the network (using Java 1.4).
  - The values of the curves can also be entered numerically. Additionally, a graphical input is feasible. Curves as well as sets of curves, which belong to several process colors, can be displayed graphically.
  - The average value of measurements and the values of the calibration curve can be displayed in a chart.
  - There exists an administration of so-called test forms, which is modeling the essential properties of test forms (as PostScript jobs): a test form defines a sequence of nominal values, and as an option the size and the distance of the test areas on the PostScript form.
  - The film linearization allows an automatic output of test pages in a calibrated as well as uncalibrated form. The parameters for the screening systems are guaranteed by the system itself.
  - Data records can be output on a printer. The data of a data record can be represented as charts, as dot percentage diagrams, or as dot gain diagrams.
  - There exists a special modification function for measurement curves and process curves. It allows the user to modify curves in a "smooth" way by defining a so-called modification curve.
  - Deviations of the printing process on top of the process curve set can be corrected.
  - Two user modes are supported: standard mode and expert mode. In the expert mode all functionality is available. The standard mode allows a simplified handling of the Calibration Manager. It has been totally redesigned in version 2.3.
  - Process calibrations can be created based on test forms, which are printed using an existing process calibration by the help of the function "iterative calibration".
  - Calibration curves of a process calibration can smoothly be modified in a similar way as measurement curves with the help of so-called "modification curves".
  - From version 2.3 on, two calibration data records for process calibration can be compared with each other. Thereby measurement curves and calibration curves can be compared. A graphical diagram, the curve values, and difference values are displayed.
  - Curve data contained in IT8 files can be exported and imported. Especially it is possible to export the curve data of a process calibration together with the calibration curves. The resulting IT8 files can be read in by the PrintOpen software of the Profile Toolbox 1.1 to create an ICC profile on the base of an uncalibrated test form.
  - IT8 files containing so-called minispots can be imported. Minispot data can be used to correct a process deviation with the help of the function "correction of a process deviation" even for all colors simultaneously. From version 2.3 on, even minispots with "mixed" patches (like PCS40/PCS60) can be imported. In this case, the mixed patches are ignored during import.
  - The dynamic of the scaling of the y-axis of the graphic editor showing dot gain can be configured.
  - The so-called "adaptive access algorithm" allows to calculate linearization curves from two existing linearization curves with "embracing" screen frequencies.
  - The spot color tables of Prinect MetaDimension can be accessed. This simplifies the entering of spot color names.
  - The Calibration Manager 2.5 can access a Master Data Server for the central administration of printing parameters (Types of printing materials, presses, ink series) and process curve sets. Moreover, presses defined in a Prinect Integration Manager and stored in a Master Data Server are imported automatically. (PIL access).
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- The Calibration Manager can access a central calibration database managed by a Calibration Manager of the Prinect Calibration Toolbox 1.1 and 2.0.
  - After starting the Prinect MetaDimension system, default calibration groups and default calibration data records are automatically created for all CtF/CtP output devices.

## Delta Flow

### *Description*

Prinect MetaDimension 7.5 offers the feature to import Delta Lists from Delta Technology, created on version 7.0/7.5. These Delta Lists can be exposed on the "primary output device" (which cannot be in this version a Contone Device). To allow this functionality, these Delta Lists have to be created in an export directory with Delta Technology Version 7.0/7.5. The export directory must be parameterized with an appropriate .ipr file and also the option "Prepare Delta Lists for Delta Flow" has to be selected. Before generating the Delta Lists, the user has to reassure that the resolution and the orientation as well as the other parameters of the Delta Lists are correct.

For exposure of the Delta Lists exclusively the Prinect MetaDimension parameters are used. Especially, the user has to be aware that the screening parameters of the Delta Lists are not used but instead the screening parameters of Prinect MetaDimension are used.

A correct output of Delta Lists generated from an older version of Delta Technology cannot be guaranteed. This is also valid for archived data, which can be retrieved from older Delta Lists versions. In order to create Prinect MetaDimension compatible Delta Lists, it is the easiest and approved way to use the export functionality with the explained option in Delta Technology Version 7.0/7.5/8.x.

### *Delta Flow Plus Extensions*

Delta Flow Plus has extended functionality to Delta Flow. Now it is possible to proof Delta Lists and to generate CIP 3 data. In addition it is possible to get a preview of the Delta Lists and if wanted to define a cutout interactively which should be recorded.

It may take longer processing times as these functions can start a resolution or orientation calculation on high-resolution data.

Color manipulation functions like "convert to gray", "convert spot colors to process colors" or "convert spot color to gray" cannot be used.

## Prinect Signa Station Workflow with Output Plans

The PDF workflow of Prinect Signa Station together with Prinect MetaDimension is optimized with Prinect MetaDimension 6.5 and Prinect Signa Station 4.0. If the Prinect Signa Station imposes PDF data, then the Prinect Signa Station can send to Prinect MetaDimension a jobticket with the layout information. In comparison with older versions, the PDF data is not converted to PostScript and is not being sent as Flat PostScript data, but the output plan with the references to the PDF files itself is sent. The PDF files are not sent. These PDF files can be stored somewhere in the network. Prinect MetaDimension replaces the network paths of the referenced elements with dynamically mounted drives. The user of the system has to ensure that Prinect MetaDimension has access to the PDF data.

The jobs can be parameterized on the Prinect Signa Station. The user can set up so-called output plans, which are subsequently assigned to a printer in the Prinect Signa Station. When a job gets transferred from the Prinect Signa Station, the output plan as well as the layout information are merged and sent to Prinect MetaDimension as a single layout Job Ticket. Also in a PostScript workflow, the output plans are used for job parameterization with

the only difference that no layout information is passed to Prinect MetaDimension. The output plans are embedded into the PostScript data stream and the information is sent as Flat PostScript.

## Step and Repeat Optimization

This optimization was implemented to avoid long processing times of the Interpreter in the case of complex "Step and Repeat" jobs.

When jobs are sent from Prinect Signa Station, from Prinergy or from Prinect Prepress Manager to Prinect MetaDimension 7.5 as layout workflow jobs, Prinect MetaDimension will recognize pages, which are multiple-positioned even when pages are rotated by multiple of 90 degrees or different pages which are multiple-positioned.

In these cases each page is interpreted only once and this leads to a shorter processing time. Clip paths can be sent with each page, which is multiple-positioned. Clip paths can be rectangles for standard applications and polygons for packaging applications.

## Prepress Manager 4.5 Connectivity

MetaDimension can process JDF data sent from Prinect Prepress Manager to a JDF hotfolder. The MetaDimension JDF Portal will accept the data in the hot folder and will transform this data to printer Job Tickets, and send it to MetaDimension. Job status progress will be sent back as JMF data to Prinect Prepress Manager.

All functions of MetaDimension 7.5 can be parameterized in the Prinect Prepress Manager user interface.

The JoinPrepress Manager tool, which is part of environment, is needed to connect MetaDimension to Prepress Manager.

## Prinect MetaDimension / CP2000 Connectivity

Prinect MetaDimension can be queried and controlled via JMF ("Job Message Format") messages by CP2000. If the "CP2000\_PLATE\_ON\_DEMAND" option is released, CP2000 can query:

1. QueueStatus (job list) or
2. QueueEntryStatus (job details incl. thumbnail). Thumbnails are only available if for the appropriate job a soft proof is ordered and calculated.

Additionally Prinect MetaDimension supports the following commands generated by CP2000:

1. AbortQueueEntry (job abort)
2. ResumeQueueEntry (continue job)
3. RemoveQueueEntry (delete job)
4. SetQueueEntryPriority (prioritize job)
5. ResourcePull (reprint – single separations also)

Some functions (e.g. delete jobs) are not yet supported by CP2000.

If a firewall is used, port 49300 (or 8080, depending on the settings in CP2000) should be released on the Prinect MetaDimension server.

## JobStream

### **Functionality**

Since Prinect MetaDimension 4.0 the JobStream functionality can be used by a Web based user interface. A PostScript or PDF file can be sent to Prinect MetaDimension server via file upload. A special output plan can be added and is valid for this special upload. If no special output plan is sent with the PDF/PostScript data, the output plan of the Virtual Printer is used.

### **Platform support for JobStream**

The newest version of the Web browser with all Service Packs should be used for the Jobstream interface. For further hints see chapter Web User Interface, section Web Based Output Plan Editor.

## Output Plan Server Pool

### **Overview**

Output plans are stored and managed in the Server Pool on the Prinect MetaDimension server. The output plans are organized hierarchically, comparable to a file system. For each device there is a folder in which output plans are stored. Below this device folder special user-defined subfolders can be created.

## Web User Interface

### **Functionality**

The user can interact with Prinect MetaDimension server on another PC using the Web User Interface.

The following functions can be used for job handling:

- Job observation and change of job settings.
- Change of job parameters.
- Priority change of jobs.
- Delete jobs from the job list.
- Display thumbnails as preview.
- Create new jobs by sending PDF/PS files.
- Edit output plans which belong to a job, or assign a new one.
- Archive finished jobs.

Devices can start the following actions:

- Display the installed devices on the Prinect MetaDimension server.
- Download of device-specific profile files.

The following administrative functions can be used:

- Display the fonts installed on the Prinect MetaDimension server.
- Display the list of ICC profiles which exist on the Prinect MetaDimension server.
- Parameterization of the Drive monitor.
- Display Virtual Printers and modify parameters.
- Create new Virtual Printers.
- Manage the users of the Web user interface.
- Configure the E-mail client in Prinect MetaDimension.

For the following functions the Image Manager option is required:

- Display and configure image directories.
- Create new image directories.
- Control image jobs and preview the images.
- Delete image jobs .

### ***Web based Output Plan Editor***

The Web based Output Plan Editor "Webjte" allows access to the output plans on the Prinect MetaDimension server. The user can create output plans, change parameters or delete output plans. The Web user interface uses the same output plans as the Java user interface. Output plan modifications executed in the Web user interface therefore have run-on effect at the Java user interface. An update of the output plans between both user interfaces must be done by user interaction.

For safety reasons the newest version of the Web browser with all Service Packs should be used for the Web user interface. Java script must be allowed to use the Web user interface.

## **Job Preview**

### ***Description***

The Preview functionality within Prinect MetaDimension 7.5 is implemented parallel to the proof workflow. In an Output Plan a proof workflow and a job preview can be configured in parallel. If a job preview is configured, a low-resolution contone file will be generated. This file can be displayed as a preview image on screen.

In Prinect MetaDimension 7.5 can as well contone data as bitmap data be displayed in the job preview.

For contone data the following new features are implemented in Prinect MetaDimension 6.1:

The calculation of contone data for job preview can be stopped.

There is a new display mode "Full size", displaying the data without a taskbar. For both contone and bitmap images there is a cache which can keep maximum of 5 images. This allows switching fast back and forth between different images.

The contone data can be cropped interactively under visual check. This is valid for the size of the clipping mask and for the position of the mask relative to the data.

For the representation of bitmap data the following new features are implemented in Prinect MetaDimension 6.1:

The bitmap representation in the job preview is available in low and high resolution. The representation in a high resolution is an option and requires a license release. A navigator window and functionality was added. In particular the navigator facilitates representation of an image section of a high-resolution bitmap. Further supporting functions for analysis and evaluation of opaque colors were added.

The following functions with bitmap data were already available with Prinect MetaDimension 5.0:

All separations belonging to one job are displayed together in a colored view.

The front and back data can be selected and displayed.

For the selected sheets the displayed separations are shown.

It is possible to open other bitmap files with a file browser and to add them to a preview. Concerning the front or back this may be done automatically or parameterized by the user. The manually added data are especially characterized.

The backside data can be mirrored either horizontally or vertically.

A grid on top can be displayed, if wanted.

For contone and bitmap data it is possible to modify preview parameters while the preview is built up. The current process is interrupted and the preview calculation is restarted with the new parameters.

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## CIP 3

### Overview

Prinect MetaDimension 7.5 supports the generation of CIP3 files (PPF Files). These files contain among other things bitmaps of the color separations for calculation of the ink zone settings for an Offset printing press. The bitmap calculation was executed considering printing process calibration results from the Calibration Manager.

#### Attention:

1. **In older MetaDimension versions, recorder calibration curves were evaluated and used for the calculation which were corrected in Prepress Interface software. This correction must not be selected any more for Prinect MetaDimension 7.5 PPF files!**
2. **As of Prinect MetaDimension 5.0 the orientation and mirroring of previews is independent from the output device with.**

In addition to the image for the ink zone calculation an original reference image inclusive ICC profile, ink information, etc. can be included in the ppf file. These data support future analysis procedures at the printing press in the form of a digital good sheet. The original reference image can be activated in the CIP3 output plan. As default no inclusion of the original reference image is activated. This results in smaller ppf files.

Files being generated in this manner are stored in a pre-configured export directory.

**Workflow 1: Jobs contain no CIP3 information from the Prinect Signa Station:** Within the Output plan for CIP3 the following parameters are required:

- Orientation (mirroring and rotation),
- Coding (Bin or Hex decode),
- Target directory for CIP3 file,
- Front Back (Front page / Back page; Sheet / Surface Mode)
- Resolution (10dpi, 50.4dpi)
- File extension (e.g. PPF, CIP3).

Prinect MetaDimension generates for each page and each color separation a TIFF file with the CIP3 settings being specified in the output plan. The data of the TIFF file is generated from the screened separations. The data for the ink zone settings is calculated out of this data and together with the information from the Job Ticket respectively the Output plan stored in a CIP3 file (according to version 2.1).

**Workflow 2: Jobs contain CIP3 information from the Prinect Signa Station:** Essentially, the contents of the CIP3 files are taken over from the Prinect Signa Station. Prinect MetaDimension adds the in zone control data from the TIFF files (see workflow 1) and from the CIP3 output plan settings. The following CIP3 output plan settings will be overwritten by the Prinect Signa Station:

- 1. For orientations only the mirroring is effective; the Prinect Signa Station controls the rotation.
- 2. Front & Back (Sheet / Surface-Mode; FrontPage & BackPage).

#### Lab color calculation for all workflows:

- The process colors CMYK will be added to the PPF data with fixed Lab values.
- If the Lab values of the spot colors are defined in the job ticket (e.g. in a color table), they are used and written to the PPF data.
- If only the CMYK values of the print colors of a job are known, Lab values are calculated for each print color according to a fixed formular which estimates the value. These values are written to PPF data set.
- If the Lab values of only one print color are not known, no Lab data are written to the PPF data. The PrepressInterface will ask the user for a definition for the unknown printing color. The Lab color values are only intended for non binding color representation of the CIP3 file in PrepressInterface.

## Adobe Interpreter

### **Version description**

The interpreter 3018 is used in the system. This version supports full PDF 1.7 functionality.

This high-resolution interpreter is responsible for calculation of

- HighRes output
- Proofing

If an optional proof interpreter (must be purchased) is available and released, a proof output may be executed in parallel to the final output. This option requires at least 2.5 GB RAM. 3 GB or more are recommended.

As of Prinect MetaDimension 4.0 a second low-resolution interpreter is responsible for calculation of

- PostScript Preflight
- Preview
- Calculation of CIP3 low resolution image data.

Maximal 4 parallel instances can be executed.

If the workstation has several CPUs they are used by the interpreter for screening. The screening of individual objects will be distributed to different CPUs. This will shorten calculation time.

## PDF PrintEngine

Die PDF PrintEngine2.0 is a new PDF based intrpreter which can be chosen parallel to clasic CPSI Interpreter. The PDF PrintEngine is an option. In the Output plan the user can select the processing via PDF PrintEngine.

Internally there are 3 diffrent so called PDF PrintEngine renderer one for High Resolution, one for proof and one for preview the Proof renderer can only be used if the option „additinal Interpreter for Proofing“ was activated. The PDF PrintEngine supports PDF 1.7 functionality.

The PDF PrintEngine works on PCs up to quad core. There are no secured experience on Pcs with more than quad core

The PDF PrintEngine should only be installed if the option was ordered.

The PDF Print Engine was tested up to Quad Core PC.

For LowRes Kanji option the PDF Print Engine needs PDF files with all CID fonts included by the customer

## Screening

### **Characteristics of realisation in Prinect MetaDimension**

- Screen angles are implemented device-independent
- Automatic adaptation of the screening to page rotation and page mirroring
- Unified interpretation of PostScript angles for all screening systems coming from the applications
- The document "Prinect MetaDimension Screen Frequencies" informs about all available screening systems
- There are some screening systems which do not belong to the standard scope of delivery, e.g. Satin Screening, Diamond Screening, and Megadot.

### ***New Rastersystems in Prinect MetaDimension 6.5:***

Prinect Stochastic Screening has additional 3 new raster systems:

- Prinect Stochastic Starter
- Prinect Stochastic II fine
- Prinect Stochastic II medium

### ***New features with Prinect MetaDimension 6.1***

- The Prinect Hybrid Screening is a new, pre-angled IS-AM screening system. This screening system is optionally available.
- The Prinect Stochastic Screening is a new FM screening system.
- The following configurations were tested successfully:

<u>Imagesetter</u>	<u>Plate</u>	<u>Resolution</u>	<u>Stochastic Screening Variant</u>
Suprasetter	Excel	2540	Fine 20 $\mu$
Suprasetter	LT2	2540	Fine 20 $\mu$
Topsetter	Excel	2540	Fine 20 $\mu$
Topsetter	LT2	2540	Fine 20 $\mu$
Topsetter	LT2	2540	Fine 20 $\mu$
Prosetter	Silber	2032	Fine 25 $\mu$
Prosetter	Silber	2540	Medium 30 $\mu$

New features as of Prinect MetaDimension 5.0.89 Supra and Prinect MetaDimension 5.1:

- Suprasetter support
- New resolutions for the TIFF-B Export (e.g. 960 lines/cm and 720 dpi)
- Enhanced information of the used screening in the job details
- Modifications in the screening user interface for improvement in intelligibility.

## **Screening Editor**

The Screening Editor is a standalone tool for experts. It is possible to generate user defined raster systems for lenticular and multicolor prints.

The user needs a profound knowledge of raster technology and about the topic moirés. The user is responsible for quality of the prints.

The Screening Editor must be installed together with a MetaDimension system on one PC. The licensing needs a License Manager and is independent from MetaDimension.

## **Object-specific Screening**

The object-specific screening allows to assign different screening parameters to individual objects within a PDF file. By this FM and AM screening systems may be combined in one page, or different AM screening systems may be combined. The benefit for the customer is a higher printing quality for different objects on one page, in particular for wrapping printing.

This functionality is realized as follows:

- The Object Screening Plugin for Acrobat, which provides the parameterization of the object-specific screening commands, is part of the PDF Toolbox 3.0.
- Prinect MetaDimension 7.5 is as a RIP able to interpret object-specific screening commands. This function is protected by a license key.

## PostScript Header Functionality

### **Usage**

The operator can use the PostScript headers, being supplied with Prinect MetaDimension. Copying the PostScript header files to the PostScript header directory can extend the selection. In order to select one or several PostScript header files, the operator has to select them in the output plan. Under the "Printing Mode" option he has to specify the desired header and to push the "Add" button. In order to remove entries from the list, the user can select an entry and push the "Delete" button.

### **Header Functionality**

#### **IdiomRecOff**

"Idiom Recognition" is a feature of PostScript 3. All vignettes, which are recognized within the print jobs of the corresponding queues, are transposed to "Smooth Shading".

The PostScript header "Idiomrecoff" is used to switch off the operation "Smooth Shading" of PostScript 3. With this option the vignettes will be processed like with a PostScript Level 1 or a PostScript Level 2 interpreter. Switching off the "Smooth Shading" operation also may suppress particular repair mechanisms which are realized by Idiom Recognition.

#### **MMSupport**

This header file reassures the support of Multiple Master Fonts also for older printer drivers, which normally do not completely support the Multiple Master Fonts.

#### **PS5000Duotone Patch**

Duotone images generated by Photoshop 5.0 will be exposed with inverse colors on CMYK devices. This header eliminates this problem.

With Photoshop 5.02 this will not be observed any more. The header file needs not to be used in this case.

#### **DisableFontErosion**

Some older fonts may contain erroneous outline descriptions. These fonts may produce reasonable shapes in screen preview or on laser printers, but in high resolutions artifacts may occur with the outlines of the characters. This is caused by a "font erosion" process which is executed by the RIP and which should improve the font quality at high resolutions. By swithing off this process the best quality may not be produced, but the font processing works more tolerant with erroneous outlines.

It is not recommended to activate this header permanently.

## Master Data Store

Prinect MetaDimension 7.5 provides the option to connect to the Prinect Master Data Store. With Prinect Master Data Store it is possible to handle specific data centralized for several Prinect MetaDimension 7.5 workstations in the network. The following master data can be managed centralized in Prinect MetaDimension 7.5:

- Printing material
- User Color tables
- Users

## Applications

Prinect MetaDimension 7.5 can process faultless data of the following applications:

Applications for Apple Macintosh with MacOS 9.2.2:

QuarkXPress 5.5  
Adobe InDesign 2.0  
Adobe Illustrator 10  
Adobe PageMaker 7.0  
Macromedia Freehand 10

Applications for Apple Macintosh with MacOS 10.4.6:

QuarkXPress 6.5  
QuarkXPress 7.0  
Adobe Photoshop 9.0  
Macromedia Freehand MX (11.0.2 BLD92)

Applications for Microsoft XP, Windows 2003

QuarkXPress 6.5  
QuarkXPress 7.1  
InDesign 4.0.4 CS3  
InDesign 3 CS  
InDesign 5 CS3  
Freehand MX  
Freehand 9  
PageMaker 7  
Illustrator 10  
Corel Draw 11  
Corel Draw 1X3

Workflow integration has been tested with the following applications:

Prinect Prepress Manager 4.5.1  
Prinect Pressroom Manager  
Prinect Integration Manager 4.5.1  
Prinect Signa Station 4.5.1  
Prinect MetaShooter 4.5.1  
Tiff Toolbox 4.0  
DeltaTechnology 8.7  
Prepress Interface (PPI) 4.5.087  
CP2000 V37, V46,S07B  
Image Control V5.1 .0.12  
CTP-Tools /Dipco 4.5 c

**Known Constraints**

1. On a single workstation proofing and film or proofing and plate exposure will be achieved only sequentially.
2. Further limitations as well as known errors are specified in the SysInfo file of Prinect MetaDimension.

**Remarks**

The measuring unit is automatically switched together with the language. The language itself depends on the Operating System locale, but is also manually selectable by the operator. The user in choosing the menu sequence "Administration > Configuration > Regional Settings" can do the manual setting for the measurement system. For some dedicated values (e.g. resolution) the measuring unit can be selected individually – and this can overwrite the predefined regional setting.

The maximum number of Virtual Printers, which can be defined, is 32.  
The maximum number of spot colors in a job is 64.  
One job can have up to 64 separations.

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