Pjannto RIP®

1.0.3

User Manual

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Pjannto Software oHG

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Table of Contents

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Introduction

Pjannto RIP® is software of PrintMaker or add-on software of EuroCUT 6 Basic, EuroCUT 6 Professional or CoCut 11 Professional, below general named as graphic program. Pjannto RIP® is given with every of this programs, minimum as a demo version. So you should be able to test Pjannto RIP® with your large format printer. If you can't find your printer direct in the ***Import Reference***-Dialog of Pjannto RIP®, please use the option to download a reference file with a driver or with a color calibrated material including a driver by the given internet link. Or ask the Eurosystems hotline for a driver or the possibility to develop a new one. If there is a bigger request, then we could develop new drivers and make new color calibrated Material-Reference files. Please tell us your wishes, so we will have the facility to develop close to the market, though in the reason of costs and time we can not satisfy every one.

Pjannto RIP® gives the user the functionality to print direct from your graphic program to common large format printers in a manner of high claim and high-quality. Graphics can be printed into the Print-Job-Queue of Pjannto RIP® by pressing the appropriate print button in the ***Standard***-Toolbar of your graphic program. Because of an easy to use Print-Job-Queue and a setup orientated user interface, the user is able to print the graphics with individual and flexibel setup possibilities for a lot of printer models.

The Abilities of Pjannto RIP®?

- More than one Print-Job can be printed to the Print-Job-Queue from your graphic program. Pjannto RIP® will print them in the background to your printer, one after the other.

- All important options can be predefined with an Output-Setup or can be changed directly in the print dialog. A flexible printer driver concept allows the useage of nearly all printer control parameters.

- By define of your own Output-Setups the print process can be much easier organized and sometimes be automated.

- A small and quick check print and later the original sized print can be generated out of the same Print-Job, without to print in your graphic program twice.

- As long as the Print-Job is in the Print-Job-Queue and not in process, you can view and correct the Print-Job-Settings. If the Print-Job is in process you can display the Print-Job-Settings. If you want to correct them in this situatuion, you have to cancel the processing of the Print-Job.

- To print a Print-Job to your printer later again, with the same or different Print-Job-Settings a Print-Job can be stored in Pjannto RIP®.

- The print processes of the Print-Jobs will be noticed in report files for every single Print-Job with every important parameter. So that you will be able to reconstruct your work to write bills or reproduce the same prints later again.

- Pjannto RIP® is not limited to a single printer manufacturer.

- In co-operation with graphic programs, which are able to cut, Pjannto RIP® supports Print & Cut.

- Pjannto RIP® prints graphic in high-quality: As an example outline fonts will be printed with sharp edges and RGB colors can be converted internally by ICC-Profiles.

- With our Reference file concept the installation of a new printer driver or a color calibrated Material-Setup gets very easy.

- Many Reference files containing printer drivers and color calibrated Material-Setups are delivered with this software or can be downloaded by the internet.

- To keep the user interface easy to handle for the every day production, despite the manifold of parameter settings, there is the possibility to switch between the *Configuration Mode* and the *Production Mode*. In the extensive *Configuration Mode* the user or administrator is able to configure any detail in any setup level to generate a setup struktur, which can be used easy in the *Production Mode*. In the *Production Mode* the user is only able to configure and use the Output-Setup level.

- In the *Configuration Mode* color calibrated Material-Setups can be generated and every possible printer option inside the setups can be manipulated. Especially there can be defined, which printer options should be able to manipulate in the *Production Mode*, to reduce the complexity of manipulation to a reasonable measure.

1. How to Install Pjannto RIP®?

General information on installation:

Hard and Software Requirements

Pjannto RIP® is already preinstalled with the graphic program. Depending on your graphic programs licence, Pjannto RIP® will run as full version, if the separate licence code is entered, or otherwise it will run as a demo version. If your printer is correctly connected to an interface, which is supported by Pjannto RIP®, and your printer is online, then it should be possible to print by starting a Print-Job from the graphic program with the Pjannto RIP® print button. Afterwards Pjannto RIP® will navigate you automatically through the initialisation process to install the proper printer driver and to configure the computer to printer interface.

Note: *If there is no proper printer driver aviable by importing a delivered Reference file direct from the* ***Import Reference****-Dialog, please download a Reference file with the internet link in this dialog. Prefer to import or to download a Material-Reference instead a Driver-Reference, because the Material-Reference includes a printer driver, too, but a color calibrated Material-Setup as well. Probably you will get a much better printing result, even if you import a Material-Reference, which is not made for the same media you are using, but for a similar one, as to print without a color calibration. When there is no Material-Reference or no Driver-Reference, please contact the hotline of Eurosystems to clarify, how you can get a proper driver for your printer. In some circumstances there can be a possibility to develop new printer drivers, because Pjannto Software is exerted to create printer drivers for new and widespread older printer models. Please tell us your whishes, that we can get to a state, where we are able to develop close to the market. Though we can not satisfy every whish, because of costs and time.*
Because of the expert knowledge and the technical equipment that is needed to create new Material-Setups, Pjannto Software is exerted to distribute as much as possible of the needed setups as Material-Reference files. Under certain circumstances we can offer the service to create Material-Reference files for our customers. Please contact the hotline of Eurosystems. But have the understanding, that we can not create Material-Reference files for every imaginable combination of printers, inks, materials, colormodels, resolutions and ditherings.

The Windows printer drivers, which may be delivered with your printer, do not have to be installed normally.

If Pjannto RIP® software is not the actual version, you can get the newest version by updating the graphic program with the live-update option.

The system requirements for Pjannto RIP® will be the same as the ones of the graphic program. Furthermore there will be additional system requirements. If your system will be not correctly configurated for your graphic program, the work of Pjannto RIP® can not be guaranteed.

To make Pjannto RIP® work, you need as an minimum the following requirements:

- A Pentium III 800 MHz or better a higher processor.
- Minimum 256 megabytes RAM memory, 512 megabytes RAM are strongly recommended.
- 2 gigabytes of free hard disc space. 10 gigabytes are strongly recommended to be able to work without disturbance.
- Microsoft Windows 98®, ME®, NT®; 2000®, XP®
- Please use only the cables that are delivered by the manufacturer of your printer to connect the printer to your computer. If there will be problems, please contact the manufacturer or dealer for support.

Note: *The data amount per Print-Job can be very large. For this reason it is recommended to make sure, that there will be ever enough space and computing power. And to make sure that there is no software running, that is not necessary for your production flow.*

Pjannto RIP® Initialising and Quickstart

5 Steps und Pjannto RIP® will work.

Note: *If there are installation problems, you will find problem descriptions and possibilities of solutions at the end of this chapter.*

1. Step: Generate or open a graphic in your graphic program.

The ***Pjannto RIP®***-Button will be in the ***Standard***-Toolbar of the graphic program.

Fig. 1: The *Pjannto RIP®*-Button in the *Standard*-Toolbar of the graphic program.

If this button is activated by pressing the mouse the ***Printing via Pjannto RIP®***-Dialog will appear.

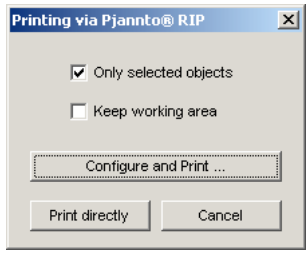

Fig. 2: The *Printing via Pjannto RIP®*-Dialog in the graphic program.

In this dialog box different modi can be selected.

The *Only selected objects*-Check-Box

If this check box is checked, only selected objects will be printed. If not, every object will be printed.

The *Keep working area*-Check-Box

With this check box it can be defined, if the printed objects will be bounded by the shape of the work sheet. When this check box is unchecked, the print will be bounded by the boundary of the printed objects.

The *Configure and Print…*-Button

This button will open the Pjannto RIP® Control program, with the ***Print-Job-Settings***-Dialog. There is the possibility to choose the needed printing options temporary for this Print-Job.

The *Print directly*-Button

This button will open the Pjannto RIP® Control program, without the ***Print-Job-Settings*** -Dialog. The Default-Output-Setup from Pjannto RIP® will be used for the printing options. This Output-Setup can be defined free in Pjannto RIP®.

The *Cancel*-Button

This button will close the dialog box without printing.

When printing is chosen, the grafik will be send to Pjannto RIP® as PostScript® data.

Note: *If this is the first start of Pjannto RIP®, then you should go on with the next step, otherwise you should go to step 3.*

2. Step: When Pjannto RIP® Control program is opened the first time, you have to go through the initialisation process:

Fig. 3: The Pjannto RIP® Control start and licence window.

At first the start and licence window will appear. Here the user has to enter the proper licence number for the dongle of the graphic program. This number can be purchased at Eurosystems. If you are not an owner of a proper licence number, you can use Pjannto RIP® in demo mode by activating the ***As Demo***-Button to test its functionality. If you purchased a proper licence number you can enter the correct number in this window and

click the ***Register-***Button. If you purchase the licence number later on, you can enter the correct number at this time and the program will switch to the full version mode immediately.

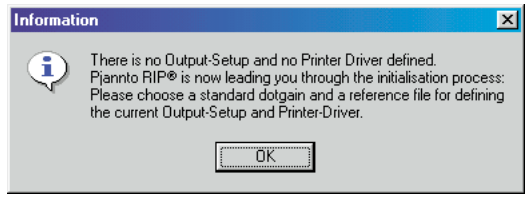

Fig. 4: Information, that there is no Output-Setup and no standard dot gain defined.

Afterwards you will be alerted, that there is no Output-Setup and no standard dotgain defined.

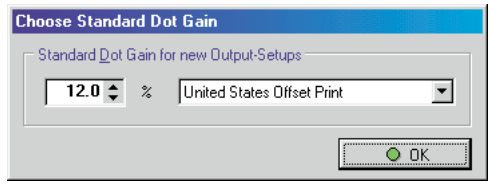

Fig. 5: The standard dot gain dialog.

Now the user has to define the standard dot gain, which is used, when a new Output-Setup will be generated. The dot gain can be defined later, for any individual Print-Job. The dot gain has the meaning, which color density precorrection is included in CMYK and gray colors of the graphical elements to compensate the density enlargement for usual offset printing. Than Pjannto RIP® can considere this precorrection, while ripping the graphic. The dot gain depends on the paper and print method the precorrection was made for and can be individual different for each country. For the United States the ***United States Offset Print***-Menu-Entry and for Europe the ***European Offset Print***-Menu-Entry is usual. If there are no precorrections included in the graphics in general, choose the ***(none)***-Menu-Entry.

Note: *RIP = Raster Image Processing. This is the conversion from graphic data to a point or pixel orientated format, which will be proper for the resolution of the printer.*

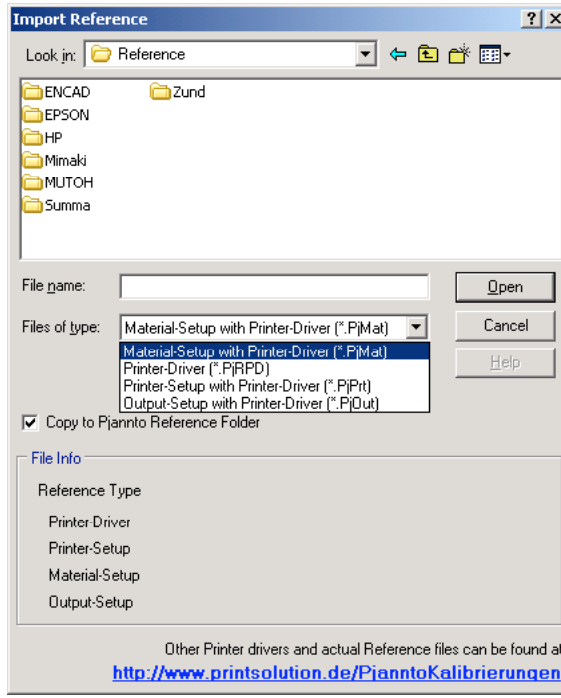

Fig. 6: The *Import Reference*-Dialog.

Further on there has to be chosen a Material-Reference file for the used printer, to establish a printer driver and a color calibration with calibration relevant options and for the media you want to print on. If there is no file with the right or some similar material, then choose a Driver-Reference file. The Driver-Reference will not contain a correct color calibration. See chapter „Reference Files“. With this import the needed Setups for the first print will be installed.

If you can’t find your printer in the Reference-Folder, please use a reference file for a printer, which seems close to your model or use the internet link to download a proper Reference file. Later on you can enlarge the Output-Setup list, if you copy an Output-Setup, if you generate a new setup or you import other Reference files from your hard disc or the internet.

Then the Plot-Manager of your graphic program will come to the foreground, with the configuration dialog box. See the chapter „Plot-

Manager“ in the user manual of your graphic program. In this dialog box you have to configure the connection parameters for the first printer that shall be driven.

3. Step: Is Pjannto RIP® Control running and initialised, then the print data from the graphic program will be displayed as a new Print-Job in the Print-Job-Queue of Pjannto RIP® Control.

If you have used a printing command, which will not show a print dialog, the Default-Output-Setup is used for the new Print-Job. In this case go further with step 4.

The ***Print-Job-Settings***-Dialog will be opened, if you have used a printing command, that will show a print dialog. See chapter „The ***Print-Job-Settings***-Dialog“. In the ***Print-Job-Settings***-Dialog the print settings you have used for the last print will be displayed for the actual print. In this dialog box you can choose a predefined Output-Setup and temporary change its settings for your actual need. Was never printed befor, the Default-Output-Setup settings are the first setting this dialog box will contain. The settings, that will be used for printing will be the ones this dialog box will offer you at first for the next Print-Job. Modifications to this dialog box will not change the original Output-Setups.
A lot of different print settings can be set in the ***Print-Job-Settings***-Dialog. If you press the ***Print-***Button, the Print-Job will be activated in the Print-Job-Queue and will be processed at the next possibility. By pressing the ***Cancel-***Button the Print-Job will be deletet.

By checking the ***Inactive-***Check-Box first and pressing the ***Print-***Button, the Print-Job will be set to the inactive state in the Print-Job-Queue and not be processed, until you activate the job by clicking it with the context menu with ***Print-Job-***Right-Mouse-Button and the appropriate menu command.

Note: *Please be sure that your printer is connected correctly to the computer and that the printer is online.*

4. Step: If the Print-Job is in the Print-Job-Queue or the Print-Job is already in process, you can click the Print-Job with the context menu by ***Print-Job-***Right-Mouse-Button. The context menu contians commands to change the state of the Print-Job or to display and change the print settings.
The Print-Job will be processed in three phases. The first phase interprets the grafic data. This phase loads the graphic. The second phase, the ripping, converts the graphic into the proper data for the chosen printer, dependent

on the chosen print settings. The third phase, the spooling, sends the calculated print data through the chosen interface to the printer. The interpretation and ripping will be controlled by the Pjannto RIP® Control program, with the help of the background program Pjannto RIP® Engine, that makes the processing. The spooling will be processed by the background program Plot-Manager, that is delivered with your graphic program.

Note: *All three phases may need unpredictable time to process, depending on the graphic data and the chosen print settings. The Control Window of Pjannto RIP® Control will display informations about the progress of the interpretation and the ripping. The Plot-Manager program will display informations about the progress of the spooling, if you mark the proper entry.*

5. Step: While processing Print-Jobs you can generate new Print-Jobs by printing out of your graphic program. These Print-Jobs will be queued at the end into the Print-Job-Queue and be processed with the chosen print settings, one after the other.

Now Pjannto RIP® is ready to print.

Pjannto Software oHG wishes you a successful working.

Pjannto RIP® Initialising Problems

There can be the following problems occur:

1. If there are problems with the **dongle**, then the following dialog box appears:

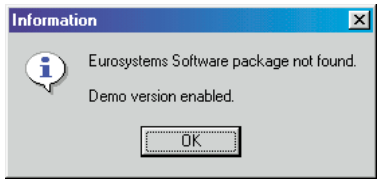

Fig. 7: Eurosystems Software package not found.

In this case supposably the graphic program or Pjannto RIP® is not installed correctly or the graphic program did not find the dongle. Please have a look into the graphic programs user manual into the chapter, that descripts the correct installation of the dongle.

2. The **printer is not printing**:

1. Opportunity: Is your printer connected correctly? Is your printer in online mode?

2. Opportunity: May be you did not install the correct printer driver. It may be that there was no appropriate printer driver, while the initialisation process. Make sure, that the used Output-Setup is usable for your printer. You can import more printer drivers by the ***Import Reference…***-Menu-Command in the ***File***-Menu of the Control Window. In the ***Import Reference***-Dialog you can also download Reference files by the internet. When you can find no appropriate Reference file, please contact the Eurosystems hotline to make cleare, how your problem can be solved. See chapter „Reference Files“.

2. How I work with Pjannto RIP®?

This chapter shall make you familiar with the functioning of Pjannto RIP®. But we assume that you are familiar with the functioning of your computer, your Windows system and your printer.

The ambition of Pjannto Software was and is, to design Pjannto RIP® in a way, that it will become a user-friendly software application. It should be able to satisfy as optimaly as possible the various requierments of the users and of the different printer models. Further on there is the need to have the flexibility for later versions to expand the functionality and the pallet of the drivable printers easy and elegant.
In general the company Pjannto Software is interested in driving a large range of printers and as much of their print options as in the actual development state of Pjannto RIP® is possible. With this we will give our customers a great freedom for their individual production workflow. We think that this philosophy will result in a big costumer satisfaction. If you have suggestions for a better user interface, for printer drivers or if there are bugs we should fix, please contact the hotline of Eurosystems or Pjannto Software. But please have the understanding, that your suggestions can only be considered, if they will fit in the entire software concept.

The configuration concept of Pjannto RIP® relys on a setup structure. This setup structure will facilitate the print parameters in three different configuration levels, named Printer-Setup, Material-Setup and Output-Setup. At this point the lower setup levels, Printer-Setup and Material-Setup, shall be not discused. Read more about this setup levels in the chapter „The Configuration Mode“. Because in the need to get a high flexibility on one hand and to make the use of Pjannto RIP® as easy and simple as possible on the other hand, only the highest setup level, the Output-Setup, can be changed in a usual working situation. The lower setup levels can only be changed in the Configuration Mode.

As a consequence, the work with Pjannto RIP® is possible in two work modi. In the *Production Mode* for a usual work situation and in the *Configuration Mode* for the change of lower level printing parameters.
The concept of the more easy user interface in the Production Mode will be supplemented by the import of Driver- and Material-Reference files, that are delivered by Pjannto Software. This Reference files will configurate the lower level setups, Printer-Setup and Material-Setup, automatically.
Because of the Reference files many users don’t have to configurate lower levels of printer parameters. But there will be still the flexibilities of Pjannto RIP®, for the ones that like to use them. Advanced users can copy the setups, that are imported by Material- and Driver-Reference files. They can change and use them for their own needs. Or they can

generate their own setups. They can save them in own Reference files for archiving or to interchange them.

While working with Pjannto RIP®, please be aware of the following points:

- We recommend strongly for usual production, to work in the Production Mode only.

- There should be only setups established in the Configuration Mode, that can be used flexible and easy in the Production Mode by Output-Setups.

- If you change setups, that are delivered by Pjannto Software, we recommend you strongly to copy them before. Than remove the name part „Pjannto“ from the setups name. This is important to distinguish between delivered and own setups to make the work for you and our hotline easier.

- Please keep the pricipals of comprehensibility and clarity, if you name your own setups.

Please take this recommendations serious, that the work can be done clear and quick. Although there has to be considered, that there may work more than one person with the same program and all parties must have the chance to get the meanings of the setup names. This is important, too, to garantee a high productivity and to save resources as ink and printing media.
For this reasons the program is in the Production Mode after each start, to make the user work clean in the described meaning.

The work with Pjannto RIP® will be done with the program Pjannto RIP® Control, which is the user interface for the print process. As an additional program Pjannto RIP® Engine is automatically active in the background, to make all the graphical calculations. In normal circumstances there is no need to change things in Pjannto RIP® Engine directly and mostly it is not feasible.

The first part of this main chapter describes the work in the Production Mode only. For advanced users the second part shows the additinal possibilities in the Configuration Mode. The third part is dedicated to the Reference files.

2.1 The Production Mode

After each start of Pjannto RIP® Control the program is in the Production Mode. The Production Mode is limited to the highest configuration level, to make the work easy and clear for the user:

- The ***Administration***-Menu of the Control Window only allows to work with Output-Setups, because the work with Material- and Printer-Setups is not provided in the Production Mode.
- The Setup-List in the Control Window only displays Output-Setups.
- Only the temporary settings will be displayed in the ***Print-Job-Settings***-Dialog, that are related to the Output-Setup.
- The ***Application Settings***-Dialog from the ***Application Settings…***-Menu-Entry of the ***Administration***-Menu in the Control Window is limited to easy and clear to understand parameters.

Advanced changes of the setup structure are able in the Configuration Mode only. The concept designates to configurate the setups in a way, that they can be used optimally in the Production Mode and to produce no usual prints in the Configuration Mode.

2.1.1 The Control Window in the Production Mode

The Control Window of Pjannto RIP® Control is the central operating point of Pjannto RIP®.

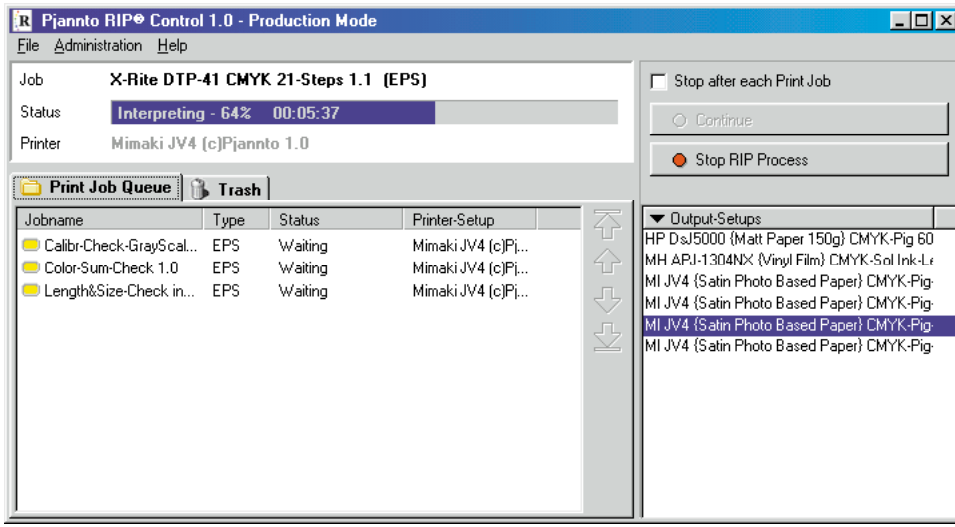

Fig. 8: The Control Window of Pjannto RIP® Control in the Production Mode.

The state and progress of the working process, the Output-Setups and the general settings of the program can be changed here. The working elements are the *menu bar*, the *process state*, the *process control elements*, the *Print-Job-Queue*, the *Job-Trash* and the *Output-Setup-List*.

2.1.2 The Menu Bar

The *File*-Menu

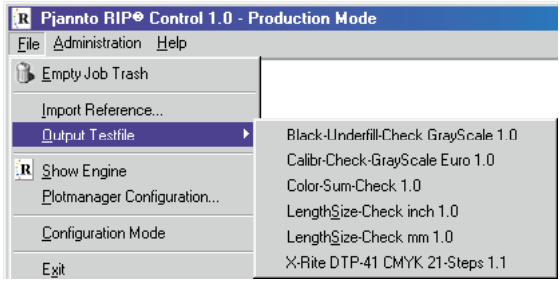

Fig. 9: The *File*-Menu of the Control Window in the Production Mode.

The *Empty Job-Trash*-Command

Removes all entries from the Trash list.

The *Import Reference…*-Command

This command will open then ***Import Reference***-Dialog. In this dialog box you can import Reference files to install new setups. In this dialog box also an internet link is aviable, where you can download Reference files. See chapter „Reference Files“.

The *Output Test Files*-Sub-Menu

With this command you can print different test files as a Print-Job.

The *Show Engine*-Command

Here you can switch to the background program Pjannto RIP® Engine.

The *Plot-Manager Configuration…*-Command

This menu item calls the program Plot-Manager, so that you can change the output parameters of your printers data interface and to change the hot folder for the data to send.

The *Configuration Mode*-Command

With this menu entry Pjannto RIP® will switch to the Configuration Mode or back to the Production Mode.

The *Exit*-Command

If you activate this command, the Pjannto RIP® program will be quit.

The *Administration*-Menu

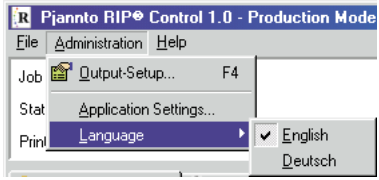

Fig. 10: The *Administration*-Menu of the Control Window in the Production Mode.

The *Output-Setup…*-Command

This command opens the ***Output-Setup***-Dialog, to change the Output-Setups.

The *Application Settings…*-Command

With this command the ***Applications Settings***-Dialog will be opened. There the general program settings of Pjannto RIP® can be changed.

The *Language*-Sub-Menu

Here can be set the language of Pjannto RIP®. This change will be immediately.

The *Help*-Menu

Fig. 11: The *Help*-Menu in the Control Window.

The *About…*-Command

This command opens the ***Start***-Dialog. When the software is in demo mode, a proper licence number can be entered to get the software into the full version mode.

2.1.3 The Process State

The process state displays the progress of the Print-Job. A Print-Job has two phases of processing. The *interpretation* analysis the graphic and the *ripping* calculates the output data for the printer.

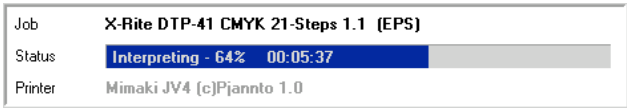

Fig. 12: The interpretation phase.

The interpretation phase analyses the graphic and stores its informations in the internal Vec2®-Graphic-Format. In this box the name of the Print-Job, the type of the graphic and the name of the used Printer-Setup is shown. The progress bar displays the progress in percentage of the data amount and the elapsed time.

Fig. 13: The ripping phase.

In the ripping phase the internal Vec2®-Graphic-Format will be converted into the output data needed for the printer by using the settings of the Output-Setup. In this box the name of the Print-Job, the type of the graphic and the name of the used Printer-Setup is shown. The progress bar displays the progress in percentage of the media lenght for one copy and the elapsed time.

Process-State-Context-Menu

Fig. 14: Context menu of the process state.

The *View Setup*-Command

This command opens the ***Print-Job-Settings***-Dialog in the read only mode. The settings can be read to proof, but can't be changed. Changes are doable, if the job is out of processing.

The *Stop RIP-Process*-Command

This action will abort the processing of the actual Print-Job, either it is in the interpretation or ripping phase. The Print-Job is moved to the Trash of Print-Jobs and will get the state „Aborted".

2.1.4 The Process Control Elements

The process control elements allows to control, which rules the processing of the Print-Job-Queue will follow. This is necessary for example, if you have to change the material before the next Print-Job or when you have to proof before the next Print-Job, if the job will fit on the rest amount of material. Even it can be important to proof the success of the first Print-Job of a serial and start the following jobs of this serial, that can be already in the Print-Job-Queue, if the first satisfies you.

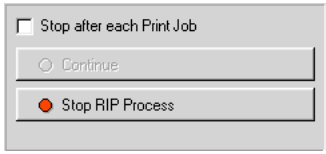

Fig. 15: The process control elements in the Control Window, if the processor is ready to process each Print-Job after the other.

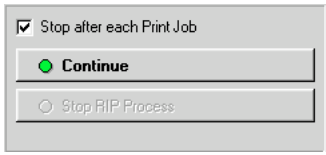

Fig. 16: The process control elements in the Control Window, if the processor is not ready to process a Print-Job.

The *Stop after each Print-Job*-Check-Box

Is the ***Stop after each Print-Job***-Check-Box unchecked and the ***Stop RIP-Process***-Button is active, then the jobs will be processed one after the other, if their are one or more. Is the

Stop after each Print-Job-Check-Box checked and the ***Stop RIP-Process***-Button active, then the job in process will be finished entirelly. Afterwards the ***Stop RIP-Process***-Button gets deactive and the ***Continue***-Button active. The next Print-Job will be processed after the ***Continue***-Button is pressed.

The *Continue*-Button

This button continues the processing of the Print-Jobs in the Print-Job-Queue. If the ***Stop after each Print-Job***-Check-Box is checked, only the next Print-Job will be processed.

The *Stop RIP-Process*-Button

Pressing this button will abort the processing of the Print-Job-Queue entire the actual processed Print-Job.

2.1.5 The *Print-Job-Queue*-Tab-View

The Print-Job-Queue lists all Print-Jobs, that are not already processed or actual in processing, which were send to Pjannto RIP®.

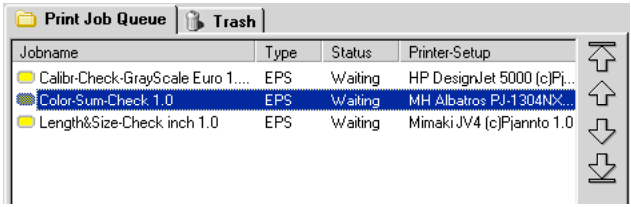

Fig. 17: Example of a Print-Job-Queue with a marked Print-Job.

In this example three Print-Jobs are listed in the order of processing. To change their order, mark one of them and press the order arrows on the right side of the list.

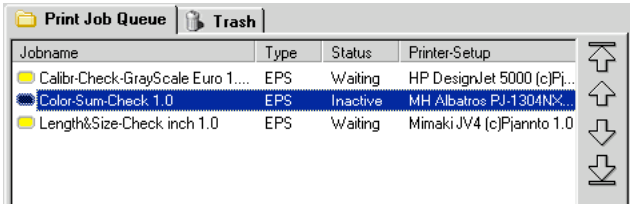

Fig. 18: Example of a Print-Job-Queue with a marked and inactive Print-Job.

This example of a Print-Job-Queue contains an inactive Print-Job. If the inactive job gets to the top of the Print-Job-Queue, instead of this job the next active will be processed. A Print-Job can be made active or inactive with the ***Print-Job-Queue-Job***-Context-Menu. To change the state of a Print-Job, click with the ***Print-Job***-Right-Mouse-Button on one or more marked Print-Jobs.

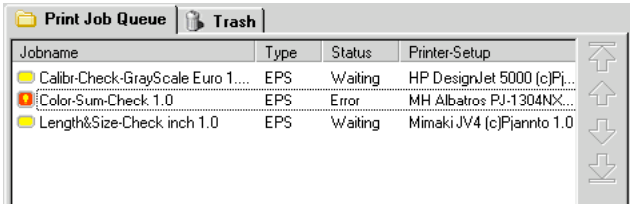

Fig. 19: Example of a Print-Job-Queue with a Print-Job, which caused an error.

If an error is occured, while a Print-Job was processed, the Print-Job will be placed back into the Print-Job-Queue with the state „Error“. The behavior, if an error occurs, can be set in the ***Application Settings-***Dialog in the menu of the Control Window. A detailed description of the error is written into the ***Print-Job-Log-File***-Window. This window can be opened with the ***Print-Job-Queue-Job***-Context-Menu (***Print-Job***-Right-Mouse-Button).

Print-Job-Queue-Job-Context-Menu

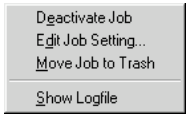

Fig. 20: The context menu of a Print-Job in the Print-Job-Queue.

The *Activate Job*-Command and the *Deactivate Job*-Command

This command activates or deactivates the marked jobs of the Print-Job-Queue. So that they will be or will be not processed, if they get to the top of the queue.

The *Edit Job Setting…*-Command

This menu entry opens the ***Print-Job-Settings***-Dialog, where the settings of the Print-Job can be changed. See chapter „The ***Print-Job-Settings***-Dialog“.

The *Move Job to Trash*-Command

This action moves the marked Print-Job from the Print-Job-Queue to the Trash of the Control Window.

The *Show Log File*-Command

With this command the report of the Print-Job can be shown in the ***Print-Job Log File***-Window. In the log file every processing step of the Print-Job is documented. The log file can be used to reproduce an equal print or to bill the jobs. Even errors which are occurred while the processing are described more detailed. See also in chapter: „The ***Print-Job Log File***-Window“.

2.1.6 The *Trash*-Tab-View

Already processed, aborted or deleted Print-Jobs will be kept in the Trash of the Control Window.

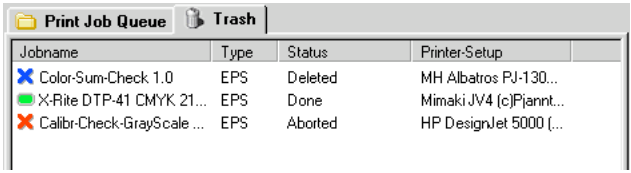

Fig. 21: Examples of Print-Jobs in the Trash.

Marked Print-Jobs in the Trash can be changed in their state by the ***Trash-Print-Job***-Context-Menu, if they will be clicked by ***Print-Job***-Right-Mouse-Button. As an example, settings can be overworked and the job can be printed again.

Trash-Print-Job-Context-Menu

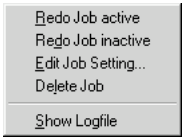

Fig. 22: The context menu of a Print-Job in the Trash.

The *Redo Job active*-Command

This command moves the marked Print-Jobs with the state „Waiting“ to the end of the Print-Job-Queue. That they will be processed, if they get to the top of the Print-Job-Queue.

The *Redo Job inactive*-Command

This command moves the marked Print-Jobs with the state „Inactive“ to the end of the Print-Job-Queue. So that they will be not processed, if they get to the top of the Print-Job-Queue.

The *Edit-Job-Settings…*-Command

This action opens the ***Print-Job-Settings***-Dialog. There the user can read and change the settings of the Print-Job.

The *Delete Job*-Command

With this command the marked Print-Jobs will be deleted ultimate out of the Trash list.

The *Show Log File*-Command

With this command the report of the Print-Job can be displayed in the ***Print-Job Log File***-Window. In the log file every process step of the Print-Job is documented. The log file can be used to reproduce an equal print or to bill the job. Even errors, that are occurred while the processing, are described more detailed. See also in the chapter: „The ***Print-Job Log File***-Window“.

2.1.7 The *Output-Setup*-List of the Control Window

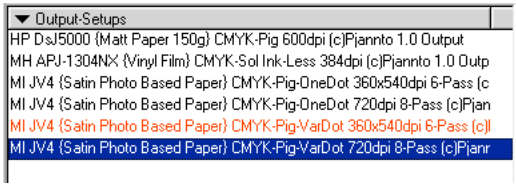

Fig. 23: An example of an *Output-Setup*-List of the Control Window in the Production Mode.

In the ***Output-Setup***-List of the Control Window all Output-Setups, that are imported or made by the user, are displayed in alphabetical order. The red marked Output-Setup is the Default-Output-Setup. The Default-Output-Setup will be used for printing, if the user prints out of the graphic program to Pjannto RIP® with no print dialog. The Output-Setups can be changed, copied, created new or deleted by activating the ***Output-Setup…***-Command in the ***Administration***-Menu of the Control Window. This can be done, too, by using the ***Output-Setup-List***-Context-Menu (***Output-Setup***-Right-Mouse-Button).

Output-Setup-List-Context-Menu

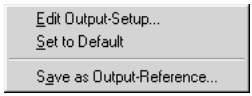

Fig. 24: Context menu of an Output-Setup in the *Output-Setup*-List of the Control Window.

The *Edit Output-Setup…*-Command

This command opens the dialog to read or change the marked Output-Setup. See chapter „The ***Output-Setup***-Dialog“.

The *Set to Default*-Command

Sets the marked Output-Setup to the Default-Output-Setup, that will be used to print, if the user is printing out of the graphic program to Pjannto RIP®.

The *Save as Output-Reference…*-Command

Saves the marked Output-Setup into a single Output-Reference file, together with all underlying setups and inclusive the printer driver. A Reference file can be imported later on by the ***Import Reference…***-Command of the ***File***-Menu in the Control Window, to install all contained setups and the printer driver. See also chapter: „Reference Files“.

2.1.8 The *Output-Setup*-Dialog

The ***Output-Setup***-Dialog can be opened by an entry in the ***Admin***-Menu in the Control Window. Then it will contain a list of all Output-Setups. As well it can be opened with the context menu of an Output-Setup in the ***Output-Setup***-List of the Control Window. Then it will contain no list of all Output-Setups. In this dialog Output-Setups can be defined in a way, to use them as templates in the ***Print-Job-Settings***-Dialog, while printing. So an environment can be established, that fits to the individual production needs of the user. By clicking the tab views ***Details***, ***Output*** und ***Options***, the contained informations can be shown, that are hidden behind the single entries of the list.

The *Default*-Check-Box

Will this check box be checked, the actual setup will become the Default-Output-Setup. The Default-Output-Setup is used for printing, if the user prints out of the graphic program to Pjannto RIP® without a print dialog.

The *Close*-Button

This button will close the ***Output-Setup***-Dialog.

The *List*-Tab-View

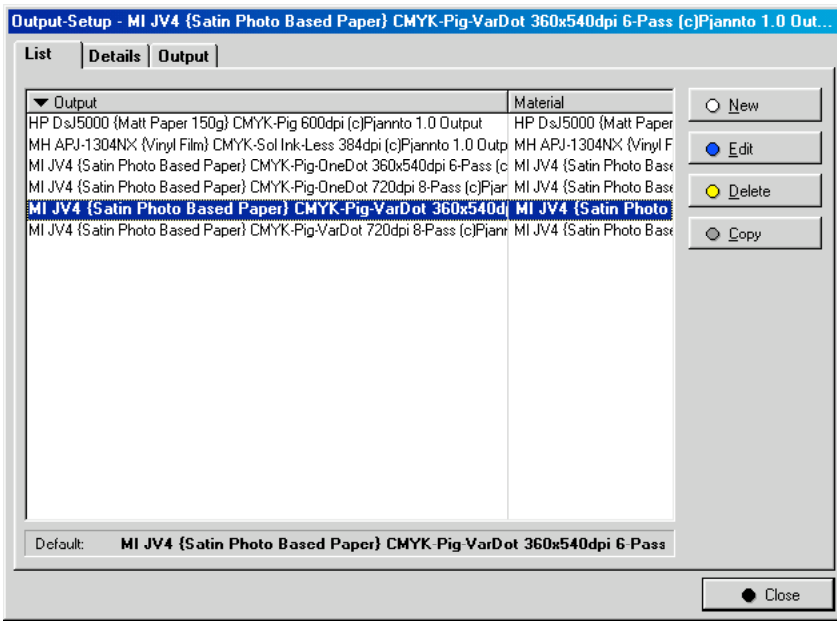

Fig. 25: An example of a *List*-Tab-View of the *Output-Setup*-Dialog.

The *Output-Setup*-List

This list shows all actual Output-Setups in Pjannto RIP® with their underlying Material-Setups.

The *New*-Button

With this button a new Output-Setup will be created.

The *Edit*-Button

Through this button the marked Output-Setup can be edited.

The *Delete*-Button

Deletes the marked Output-Setup.

The *Copy*-Button

This button can duplicate the marked Output-Setup. As an example, to use the copy as a template for a new Output-Setup.

The *Default*-Display

This field displays the name of the Default-Output-Setup. The Default-Output-Setup is used for printing, if the user prints out of the graphic program to Pjannto RIP® without a print dialog.

***Output-Setup-List*-Context-Menu**

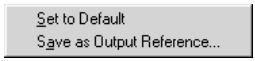

Fig. 26: The context menu of an Output-Setup in the *Output-Setup*-List in the *Output-Setup*-Dialog.

The *Set to Default*-Command

Sets the marked Output-Setup to the Default-Output-Setup. The Default-Output-Setup will be used for printing, if the user prints out of the graphic program to Pjannto RIP® without a print dialog.

The *Save as Output-Reference…*-Command

Saves the marked Output-Setup into a single Output-Reference file, together with all underlying setups and inclusive the printer driver. A Reference file can be imported later on by the ***Import Reference…***-Command of the ***File***-Menu in the Control Window, to install all contained setups and the printer driver. See also chapter: „Reference Files“.

The *Details*-Tab-View

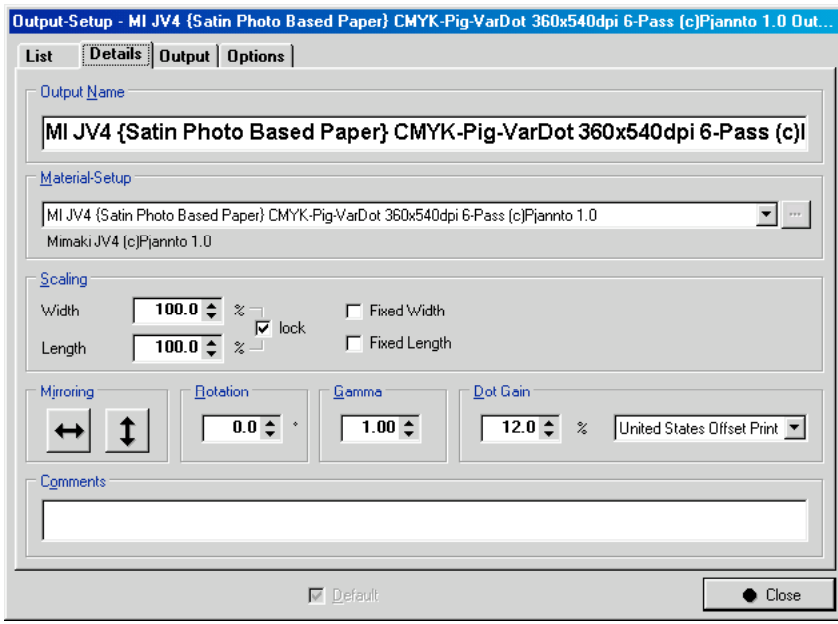

Fig. 27: An example of the *Details*-Tab-View of the *Output-Setup*-Dialog.

Fig. 28: Cut-out of the *Scaling*-Edit-Group in the *Details*-Tab-View of the *Ausgabe-Setup*-Dialog. With a checked *Fixed With*-Check-Box and a checked *Fixed Lenght*-Check-Box.

The *Output-Name*-Edit-Field

Here the name of the Output-Setups is set.

The *Material-Setup*-Edit-Group

With the popup menu of this edit group the underlying Material-Setup must be choosen. Is the **…**-Button active, the choosen Material-Setup can be edited by pressing this button

with the mouse. The name of the underlying Printer-Setup of the Material-Setup is displayed underneath the popup menu of the Material-Setup.

The *Scaling*-Edit-Group

This edit group defines the size of the print. By „100%“ the original size of the graphic is displayed in the size edit fields. The width and length can be defined proportional, if the ***lock***-Check-Box is checked. Otherwise the width and the length can be defined independent. The usual case will be, to have the width and length proportional. The size can be defined relative to the original size by using the percentage edit fields. Or the size can be defined absolutly by using the width and length edit fields. To define the size absolute, the ***Fixed Width***-Check-Box or the ***Fixed Length***-Check-Box have to be checked. Use the right mouse button in the edit fields to select often used standard values.

The *Mirroring*-Edit-Group

Here you can define, if the print shall be mirrored in the horizontal or the vertical direction.

The *Rotation*-Edit-Field

Here can be entered, if the Print-Job shall be rotated. Use the right mouse button in the edit field to select often used standard values.

The *Gamma*-Edit-Field

With this edit field you can change the lightness of the Print-Job, to have a simple and quick possibility to make some corrections. The value „one“ will print the colors of the graphic originally. Values greater than „one“ will make the colors darker and values smaler than „one“ will make them lighter.

The *Dot Gain*-Edit-Group

This edit group is not(!) made to make quick lightness corrections. For this need please use the ***Gamma***-Edit-Field. This parameter is made to compensate lightness corrections, which are already contained in the CMYK colors of the graphic. This kind of precorrections could be already made to the CMYK colors of the graphic, if the graphic was dedicated to be printed through an other print process. For example as an offset print. In this circumstances usually precorrections are made to compensate the dot gain effect of the used printing process, that would make the colors more dark. So the precompensation in the graphic makes the colors more light. As a conclusion this edit group is made to compensate the precompansation in the colors of the graphic. This compensation will only effect CMYK und Gray colors, but as well the colors, which are converted from RGB to CMYK by an ICC-Profile. Only the author of the original graphic can know the value of the dot gain precorrection contained in the graphic colors. So this value must be delivered from the author together with the graphic. This values are mostly country dependent. Common values can be chosen in the popup menu beside the edit field.

The *Comments*-Edit-Field

Here the user can make comments for the Output-Setup.

The *Output*-Tab-View

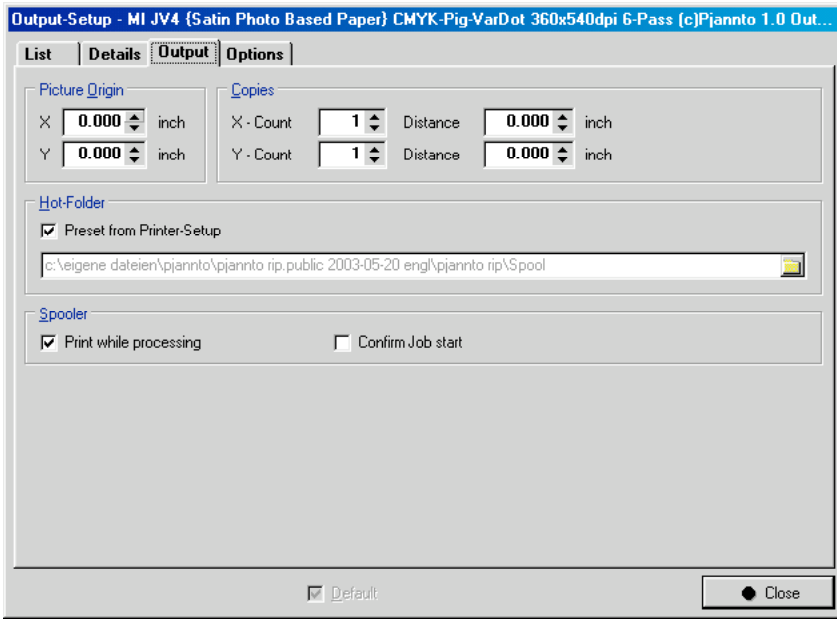

Fig. 29: An example of the *Output*-Tab-View of the *Output-Setup*-Dialog.

The *Picture Origin*-Edit-Group

Here can be set the output position of the print on the print media related to the origin of the printer model.

The *Copies*-Edit-Group

Enter here the number of copies you like to have in X- and Y-direction. This possibitity is very effective, because the graphic is interpreted and ripped internally only once.

The *Hot-Folder*-Edit-Group

This parameter should not be changed usually. Here is set, where the print file has to be saved, that the Plot-Manager will find it and can send the data to the printer. The file path should be the same as the corresponding one of the Plot-Manager. Is the ***Preset from Printer-Setup***-Check-Box checked, than the file path from the Printer-Setup is used.

The *Spooler*-Edit-Group

The ***Spooler***-Group gives the user the possibility to control the output of the printer data over the Plot-Manager. Is the ***Print while processing***-Check-Box checked, the output of the data for the printer starts, while Pjannto RIP® is still calculating the remaining print data. This can reduce the entire production time. On the other hand, there can be problems with the print quality, if you do so. Because, when the printer prints much quicker than Pjannto RIP® rips the next data, the printer will stop for a while inbetween the print. That can cause streaks.
When a media change or any thing else is to do, before this Print-Job can be started, the ***Confirm Job Start***-Check-Box should be checked. If you do so, the Plot-Manager will open a dialog box and will wait for the users confirmation, before it starts to send the data to the printer.

The *Options*-Tab-View

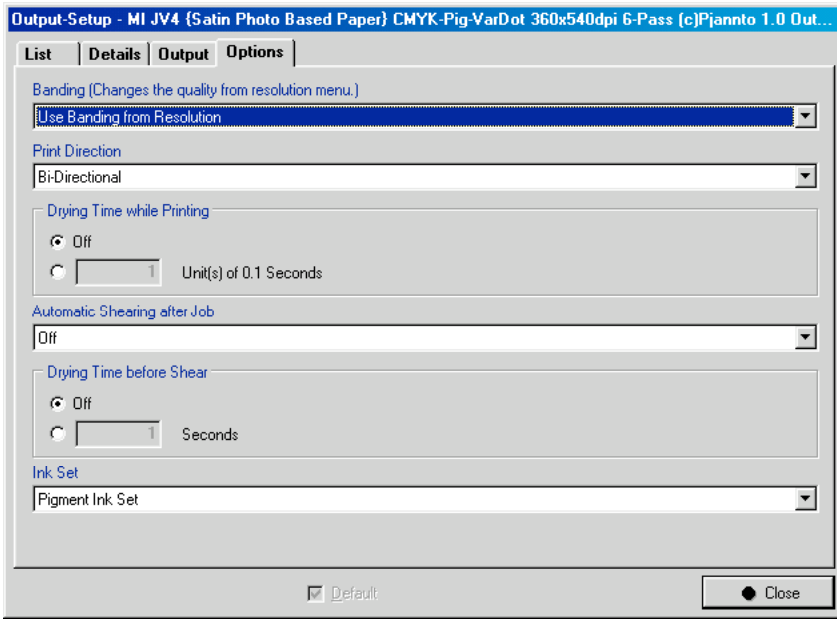

Fig. 30: An example of the *Options*-Tab-View of the *Output-Setup*-Dialog.

The settings in the ***Options***-Tab-View depends entirely on the used printer driver. The printer driver is selected indirectly with the ***Material-Setup***-Popup-Menu of ***Details***-Tab-View. If there are no options, this tab view will be hidden.

Which of the possible options are shown in this dialog is defined in the ***Material-Setup***-Dialog. The ***Material-Setup***-Dialog can be entered only in the Configuration Mode. See the chapter „The ***Material-Setup***-Dialog“.

Note: *Because of the individuality of the option settings, they can not be discussed in this user manual. We tried to make the option descriptions as clear as possible. Please have a look to the user manual of your printer model to find some descriptions of the printer options, that can be controlled by software applications.*

2.1.9 The *Print-Job-Settings*-Dialog

In the ***Print-Job-Settings***-Dialog the user have to set the settings for the actual Print-Job. When a Print-Job has to be printed for the first time the ***Print-Job-Settings***-Dialog will be set with the settings of the last Print-Job. If there was never any Print-Job be printed with Pjannto RIP®, the ***Print-Job-Settings***-Dialog will be set with the settings of the Default-Output-Setup. The user can change the given settings free. At first the ***Output-Setup Preset***-Popup-Menu should be set as needed. Here an Output-Setup can be chosen as a template for all settings. The Output-Setups are deliverd by Pjannto Software or made by the user himself. The user should create his own Output-Setups in a way, that he has to change minimal settings, if he used it as a template in the ***Print-Job-Settings***-Dialog. When the Output-Setup is chosen as a template, then change the remained settings to the need for this Print-Job. If there are often used setting compinations, then a new Output-Setup should be created to have them as a template for the future. This can be done by opening the ***Output-Setup***-Dialog with the ***Output-Setup…***-Command of the ***Adminitration***-Menu in the Control Window.

Note: *Changes of the* ***Print-Job-Settings****-Dialog will not effect the parameter settings of the chosen template Output-Setup. This changes are private to this Print-Job.*

The *Print*-Button

Closes the ***Print-Job-Settings***-Dialog and stores the settings to the Print-Job in the Print-Job-Queue.

The *Cancel*-Button

Closes the ***Print-Job-Settings***-Dialog and stores the settings not(!) to the Print-Job in the Print-Job-Queue. If the Print-Job was not in the Print-Job-Queue or the Trash before, there will be no Print-Job stored anywhere.

The *Inactive*-Check-Box

Is this check box checked and the ***Print***-Button is pressed, the settings will be stored to the Print-Job. The Print-Job will have the state „Inactive“ and will not be processed, if it gets to the top of the Print-Job-Queue.

The *Extended Settings*-Check-Box

This check box extends the parameter settings of the ***Print-Job-Settings***-Dialog temporary to the possibilities of the Configuration Mode. This extention should not be need and used normally. This extension was made possible to satisfy the needs of advanced users to make quick and temporary corrections to the lower setup levels like the Material-Setup and the Printer-Setup. In the extended mode is the risk to change parameters settings, that

can destroy the print. The user must create his own setups in a way, that he do not need this mode. If the user checks the check box, the following dialog box will appear. The extended mode is described in the chapter „ The Configuration Mode“.

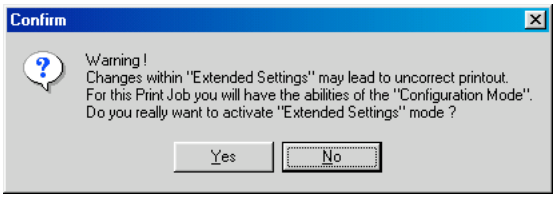

Fig. 31: The warning dialog box, if the user extends the *Print-Job-Settings*-Dialog to the possibilities of the Configuration Mode.

The *Output*-Tab-View

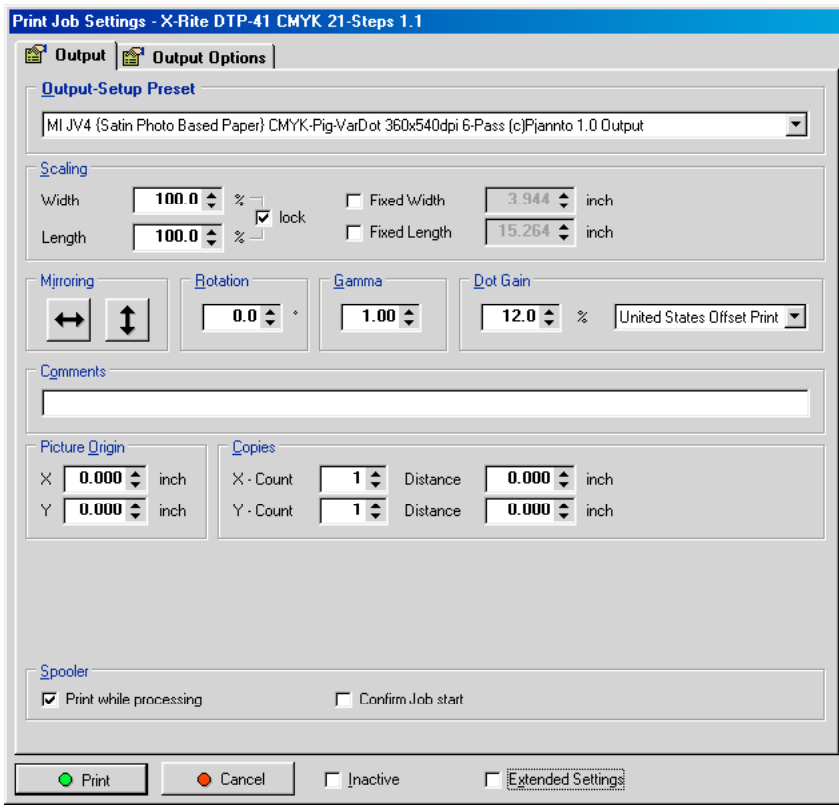

Fig. 32: The *Output*-Tab-View of the *Print-Job-Settings*-Dialog with the template settings of the Output-Setup in the *Output-Setup Preset*-Popup-Menu.

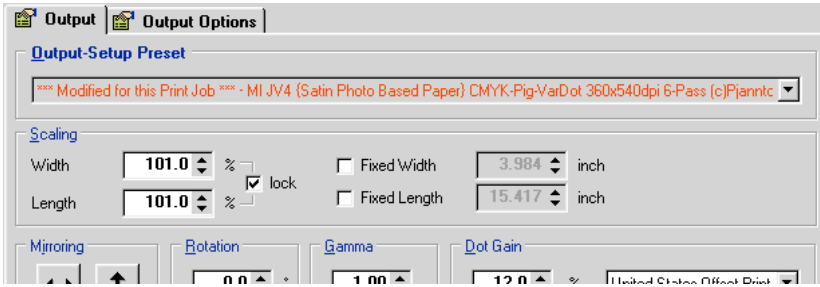

Fig. 33: The *Output*-Tab-View of the *Print-Job-Settings*-Dialog with settings that are changed in relation to the template settings of the Output-Setup in the *Output-Setup Preset*-Popup-Menu.

Edit elements of this tab view, that are not described here, are the same as the according ones of the ***Details***-Tab-View or the ***Output***-Tab-View in the ***Output-Setup***-Dialog in the chapter: „The ***Output-Setup***-Dialog“.

The *Output-Setup Preset*-Popup-Menu

This popup menu selects the template Output-Setup for the entire ***Print-Job-Settings***-Dialog and with this the printer driver. If changes are made afterwards, then the name of the template Output-Setup starts with the text „*** Modified for this Print-Job *** - …“. This changes will not change the original setups! They are private to this job.

The *Output Options*-Tab-View

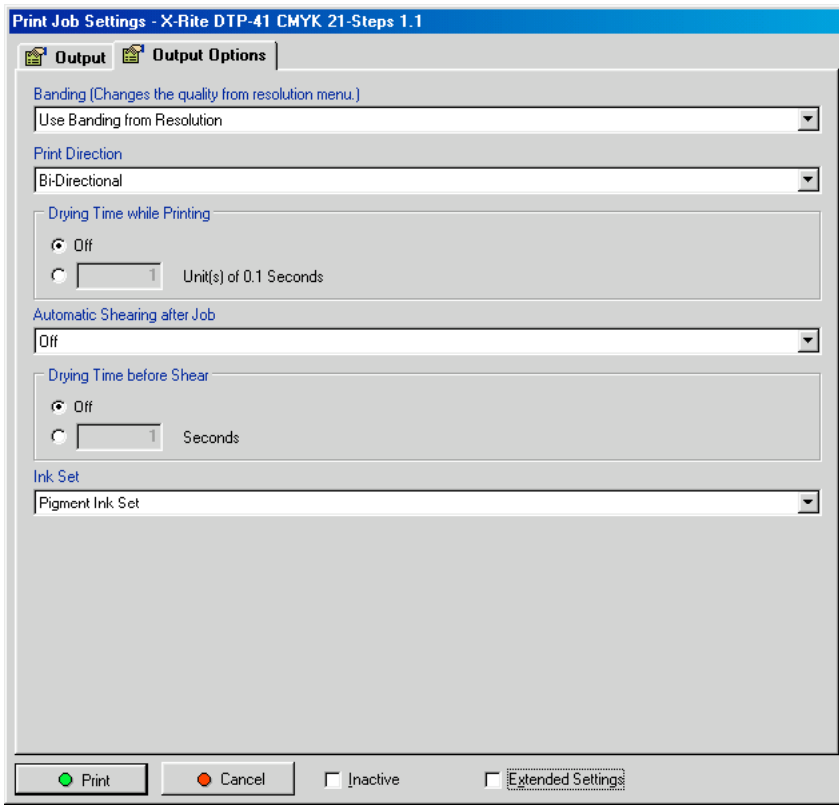

Fig. 34: An example of the *Output Options*-Tab-View of the *Print-Job-Settings*-Dialog.

Edit elements of this tab view, that are not described here, are the same as the according ones of the ***Options***-Tab-View in the ***Output-Setup***-Dialog in the chapter: „The ***Output-Setup***-Dialog“.

2.1.10 The *Print-Job Log File*-Window

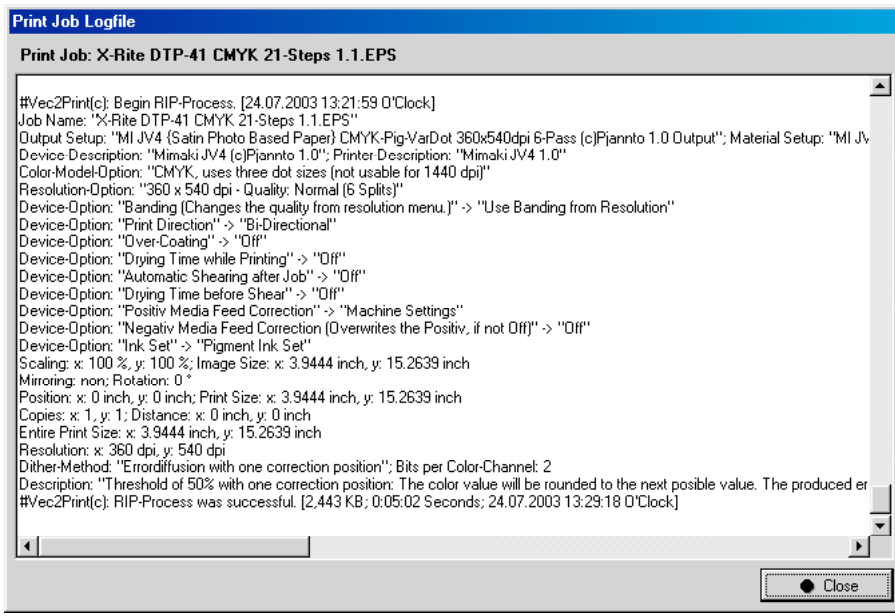

Fig. 35: The *Print-Job Log File*-Window.

This window reports the informations about all working steps the Print-Job is gone through. For an example, the user can use the informations to reproduce the print or to bill the print to the customer. When an error occurred while printing, the user will find a more detailed description in this log file.

To send or to save the text, the text in the window can be marked and copied to the clipboard.

2.1.11 The *Application Settings*-Dialog

This dialog contains the general settings of the program Pjannto RIP®, that are needed for the process flow, for the generation of new setups and for the driving of external devices.

The *OK*-Button

This button closes the ***Application Settings***-Dialog and stores the settings into the application preferences.

The *Cancel*-Button

If the user presses this button the ***Application Settings***-Dialog will be closed, But the settings will not be stored into the application preferences!

The *General*-Tab-View

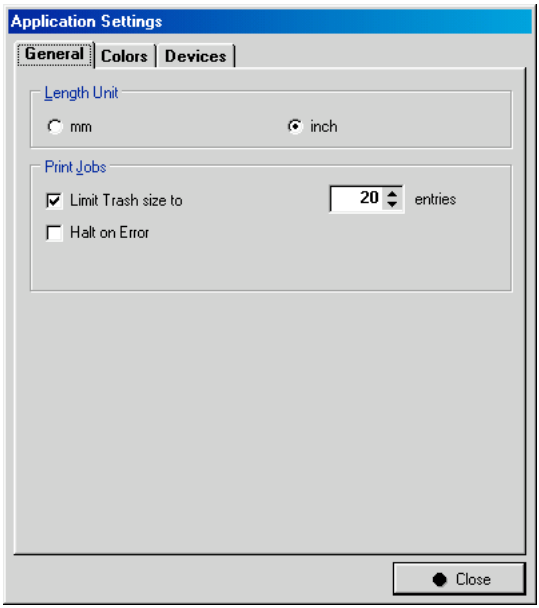

Fig. 36: The *General*-Tab-View of the *Application Settings*-Dialog in the Production Mode.

The *Length Unit*-Radio-Button-Group

With this radio button group the user can choose the lenght measure unit.

The *Print-Jobs*-Edit-Group

With this edit group the maximum number of Print-Jobs in the Trash can be limited to a specific number. Because Print-Jobs can need a very large amount of memory on the hard disc, the oldest Print-Jobs will be deleted first, when the number of Print-Jobs in the Trash is limited and gets larger than the limit.
Also it can be set, if the processing of the Print-Job-Queue should be halt after an error occurs while processing a Print-Job.

The *Colors*-Tab-View

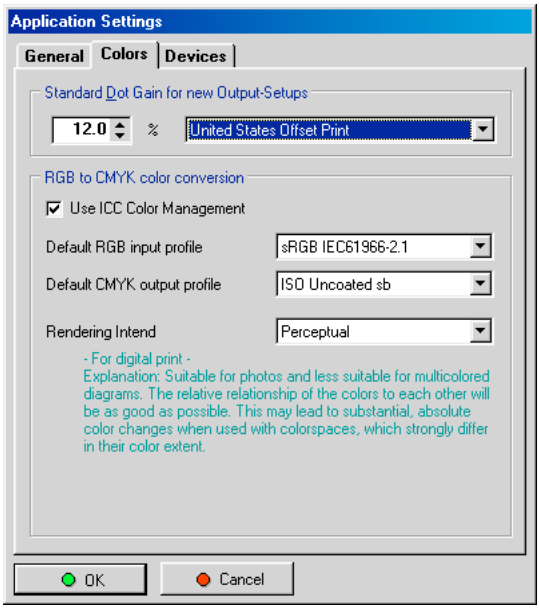

Fig. 37: The *Colors*-Tab-View of the *Application Settings*-Dialog.

The *Standard Dot Gain for new Output-Setups*-Edit-Group

This value is the default, if new Output-Setups will be created. For a detailed description, please look for the ***Output***-Tab-View of the ***Print-Job-Settings***-Dialog in the chapter „The ***Print-Job-Settings***-Dialog“.

The *RGB to CMYK Color Conversion*-Edit-Group

When the RGB to CMYK color conversion shall be calculated by the ICC Color Management the ***Use ICC Color Management***-Check-Box have to be checked. Otherwise the conversion will be done with a simple and rudimentary method. An ICC Color Management is recommended, because a high quality of the reproduction of the RGB colors on printers is possible. See the chapter: „The ICC Color Management“.

The *Device*-Tab-View

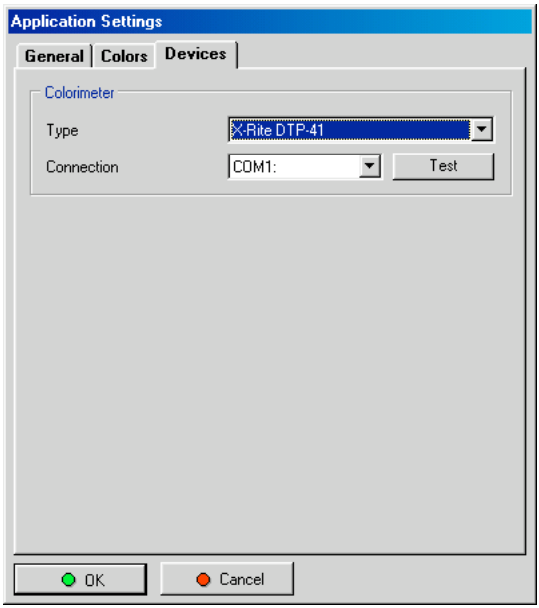

Fig. 38: The *Devices*-Tab-View of the *Application Settings*-Dialog.

The *Colorimeter*-Edit-Group

Here a colorimeter and its interface to the computer can be chosen. A colorimeter is a device that is able to read color values. With the ***Test***-Button the connection to the device can be proofed by getting the version number of the internal software (firmware) of the device

2.2 The Configuration Mode

This working mode can be established by the ***Configuration Mode***-Command in the ***File***-Menu of the Control Window.

This chapter only describes the additional functions the user will have in the Configuration Mode, compared to the Production Mode. The explanation of the dialog elements that are not described here, please see in the chapter „The Production Mode“.

The Configuration Mode should not be used for the usual production, because of reasons that are described at the beginning of this main chapter. Use the Configuration Mode to configure the setups, that they can be used efficiently in the Production Mode. Organize the setups in a way, that it can be used esay as templates in the ***Print-Job-Settings***-Dialog.

The Configuration Mode gives the possibility, to configure the lower setup levels Material-Setup and Printer-Setup, as well as the Output-Setup. Even the user can set some additional parameters in the ***Application Settings***-Dialog.

2.2.1 The Control Window in the Configuration Mode

In the Configuration Mode the Control Window of Pjannto RIP® changes in two points. The ***Administration***-Menu offers commands to open dialogs to edit the Printer-Setup and the Material-Setup. And the setup list in the Control Window will be displayed in a tree structure.

2.2.2 The Menu Bar

The *Administration*-Menu

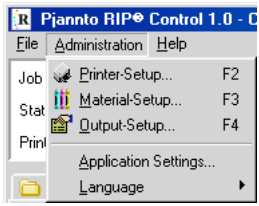

Fig. 39: The *Administration*-Menu of the control Window in the Configuration Mode.

The *Printer-Setup…*-Command

This command opens the ***Printer-Setup***-Dialog to edit the Printer-Setups.

The *Material-Setup…*-Command

This command opens the ***Material-Setup***-Dialog to edit the Material-Setups.

2.2.3 The *Setup-Structure*-Tree of the Control Window

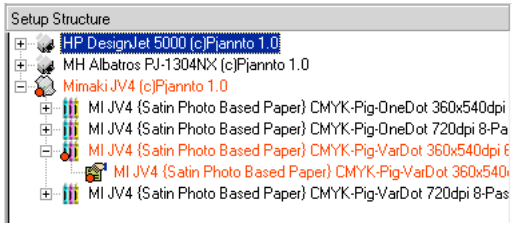

Fig. 40: An example for a *Setup-Structure*-Tree of the Control Window in the Configuration Mode.

The ***Setup-Structure***-Tree of the Control Window shows all setups that the user has created or imported with the ***Import Reference…***-Command. The root of every branch starts with the fundamental Printer-Setup. Afterwards the the Material-Setups are listed, that are depending on a particular Printer-Setup. And at last all Output-Setups are displayed, that are depending on a particular Material-Setup.
All setups that are written in red together build the Default-Output-Setup. A red point marks them additionally. The Default-Output-Setup is used for printing, if the user will print out of the graphic program to Pjannto RIP® with no dialog box. The listed setups can be edited, copied, created new or deleted with the commands in the ***Administration***-Menu of the Control Window or with the ***Setup-Structure***-Context-Menu (***Setup***-Right-Mouse-Button).

Printer-Setup-Context-Menu

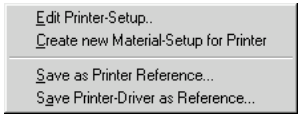

Fig. 41: The context menu of a Printer-Setup of the *Setup-Structure*-Tree of the Control Window in the Configuration Mode.

The *Edit Printer-Setup…*-Command

This command opens the edit dialog box for this Printer-Setup.

The *Create new Material-Setup for Printer*-Command

With this command a new Material-Setup will be created, that depends on the marked Printer-Setup.

The *Save as Printer-Reference…*-Command

Saves the marked Printer-Setup into a single Printer-Reference file, together with all underlying setups and inclusive the printer driver. A Reference file can be imported later on by the ***Import Reference…***-Command of the ***File***-Menu in the Control Window, to install all contained setups and the printer driver. See also chapter: „Reference Files“.

The *Save Printer-Driver as Reference …*-Command

Saves only the printer driver of the marked Printer-Setup into a single Printer-Driver-Reference file. A Reference file can be imported later on by the ***Import Reference…***-Command of the ***File***-Menu in the Control Window, to install all contained setups and the printer driver. See also chapter: „Reference Files“.

Material-Setup-Context-Menu

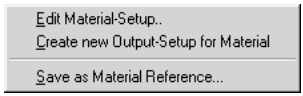

Fig. 42: The context menu of a Material-Setup of the *Setup-Structure*-Tree of the Control Window in the Configuration Mode.

The *Edit Material-Setup…*-Command

This command opens the edit dialog box for the marked Material-Setup.

The *Create new Output-Setup for Material*-Command

With this command a new Output-Setup that depends on the marked Material-Setup will be generated.

The *Save as Material-Reference…*-Command

Saves the marked Material-Setup into a single Material-Reference file, together with all underlying setups and inclusive the printer driver. A Reference file can be imported later on by the ***Import Reference…***-Command of the ***File***-Menu in the Control Window, to install all contained setups and the printer driver. See also chapter: „Reference Files“.

2.2.4 The *Material-Setup*-Dialog

The ***Material-Setup***-Dialog can be opened with a command in the ***Administration***-Menu of the Control Window. Than it will contain a list of all Material-Setups. It can be opened as well with the context menu of a Material-Setup in the ***Setup-Structure***-Tree of the Control Window. In this case there will be no list of all Material-Setups. The tab views ***Details***, ***Options***, ***Linearisation*** and ***Measurement*** can show the settings that are hidden behind the entries of the ***List***-Tab-View or of the ***Setup-Structure***-Tree.

In this dialog box the Printer-Setup can be selected and all the related settings for the different combinations of ink, material, color model, resolution etc. can be defined. Supplementary the color calibration, here the linearisation, for the parameter combinations can be generated. Also the color calibration independent printer options, that should be able to control in the depending Output-Setups, can be defined. Then the selected printer options will be overwritten by the accordingly printer options defined in the specific Output-Setups.

Note: *The parameter settings of a Material-Setup will effect the output possibilities and the output quality considerable. For partialy settings the user will need a colorimeter (a color reading external device) or a formidable knowledge of colors. Please do not change the settings, if you are not sure about the effects.*
To read more about the services of color calibration we can offer in certain circumstances, please see the chapter „Reference Files“.

The *Close*-Button

This button closes the ***Material-Setup***-Dialog.

The *List*-Tab-View

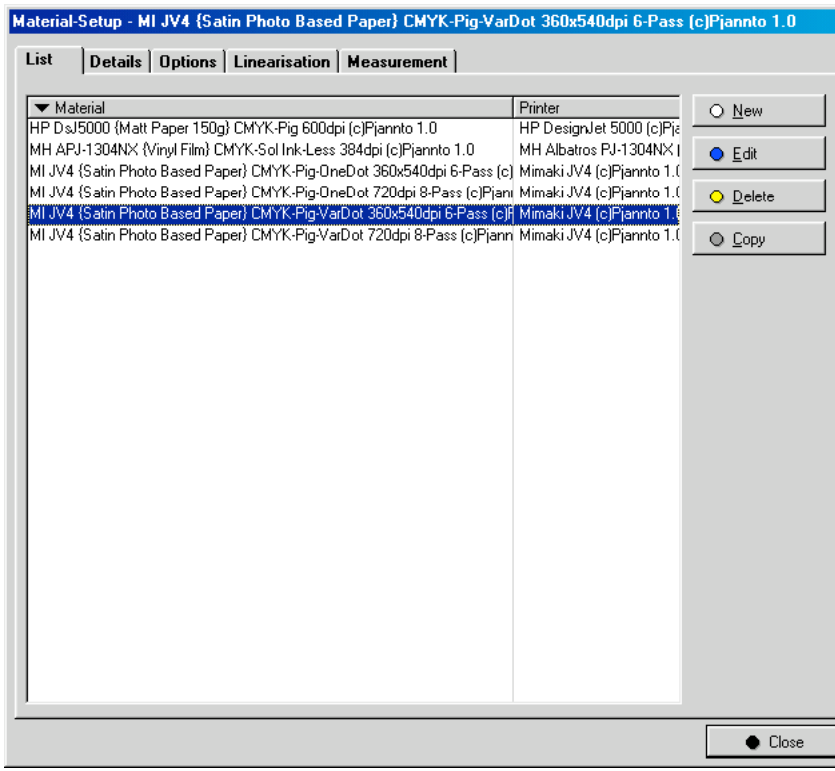

Fig. 43: An example of the *List*-Tab-View of the *Material-Setup*-Dialog.

The *Material-Setup*-List

This list displays all Material-Setups of Pjannto RIP® together with their underlying Printer-Setups.

The *New*-Button

To press this button will create a new Material-Setup.

The *Edit*-Button

With this button the marked Material-Setup can be edited.

The *Delete*-Button

This button will delete the marked Material-Setup off the list.

The *Copy*-Button

The marked Material-Setup will be duplicated. As an example, to use it as a template for an own new Material-Setup.

The *Material-Setup-List*-Context-Menu

Fig. 44: The context menu of a Material-Setup in the *List*-Tab-View of the *Material-Setup*-Dialog.

The *Save as Material-Reference…*-Command

Saves the marked Material-Setup into a single Material-Reference file, together with all underlying setups and inclusive the printer driver. A Reference file can be imported later on by the ***Import Reference…***-Command of the ***File***-Menu in the Control Window, to install all contained setups and the printer driver. See also chapter: „Reference Files“.

The *Details*-Tab-View

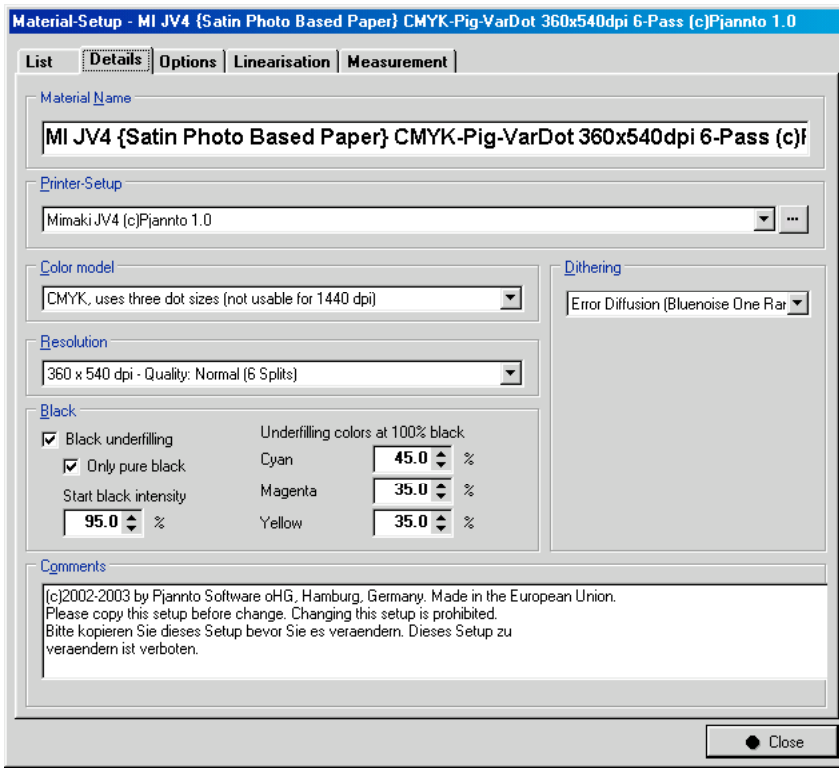

Fig. 45: The *Details*-Tab-View of the *Material-Setup*-Dialog.

The settings of this tab view will change the color output. It may be, that the changes have to be compensated by generating new linearisation curves in the ***Linearisation***-Tab-View respectively in the ***Measurement***-Tab-View.

The *Material Name*-Edit-Field

Here the name of the Material-Setup is set.

The *Printer-Setup*-Edit-Group

In the popup menu of this edit group the Printer-Setup has to be chosen, on which the Material-Setup shall depend. By pressing the **…**-Button the selected Printer-Setup can be edited.

The *Color Model*-Popup-Menu

In this popup menu it can be selected between the supported color models. The selectable color models are varying from one printer model to the other and they depend direct on the printer driver of the Printer-Setup. The different color models offers the use of different color modi respectively of different color calculation methods in Pjannto RIP®. These modi can influence the calculation time and the data amount significant, that has to be stored on the hard disc and send to the printer.

The *Resolution*-Popup-Menu

Here one of the possible resolution has to be selected, that are offered by the printer driver of the Printer-Setup. It is assumed that as higher the resolution is, as better the print quality will get. But as more calculation time will be needed and as bigger the data amount will get, that need to be stored on the hard disc and send to the printer.

The *Black*-Edit-Group

In this edit group the mixing of black colors can be defined. Is the ***Black underfilling***-Check-Box checked, the other edit elements will become visible. Colors that are containing accordantly tints of black color can be remixed different.
This proceeding can be reasonable, if colors, that are close to black, do not look dark enough respectively can not cover the material or if they look to much colored.
This option should be disabled or be limited to less amounts of CMY color components, if the used material can not absorb enough ink at all or odd looking black color will be the result.
With the ***Only pure Black***-Check-Box can be controlled, if all colors that containing the accordingly tints of black or if only colors that are the accordingly tints of black and do not contain any other colors should be remixed. The colors that have to be remixed will get the set amount of cyan, magenta and yellow, if they contain respectively if they are 100% of black tint. The remixing process starts at the black tint of the ***Start Black Intensity***-Edit-Field, where still nothing will get remixed. The remixing will pass linear to the new mixture of the ***Underfilling Colors at 100% Black***-Edit-Group, if the colors contain respectively if the colors are 100% of black tint.
This values have to be proofed in practical tests.

The *Dithering*-Popup-Menu

Here a dithering method has to be selected. The dithering will effect the quality of the print considerable. The best method can be chosen only with a formidable knowledge of printing theorie.

The *Comment*-Edit-Field

The user can comment the settings in this edit field.

The *Options*-Tab-View

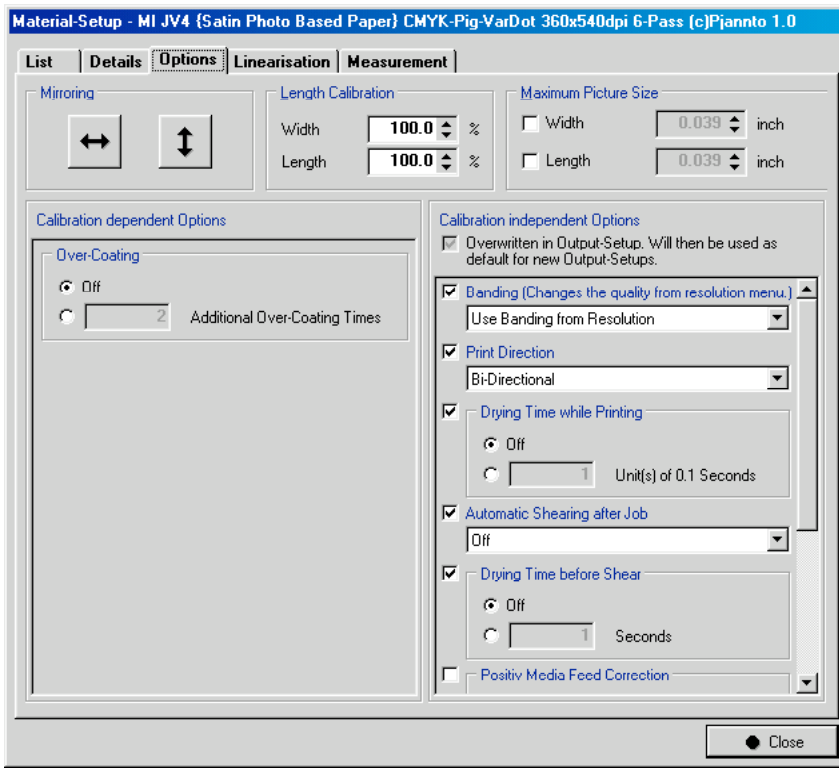

Fig. 46: The *Options*-Tab-View of the *Material-Setup*-Dialog.

The option settings of the ***Calibration dependent Options***-Edit-List and the ***Calibration independent Options***-Edit-List are only depending on the printer driver of the underlying Printer-Setup. Are there no options for the printer model the corresponding edit list will not appear.

Note: *Because of the individuality of the option settings, they can not be discussed in this user manual. We tried to make the option descriptions as clear as possible. Please have a look to the user manual of your printer model to find some descriptions of the printer options, that can be controlled by software applications.*

The *Mirroring*-Edit-Group

Defines the mirroring which is needed for the material. Mirroring can be necessary for materials that have to be printed on the backside.

The *Length Calibration*-Edit-Group

If the lenght measurement of prints on this material does not correspond with the size the user has entered in the ***Print-Job-Settings***-Dialog, the user can define a correction in this edit group.
Note: *Only use this edit group, when there is no possibility to correct the measurement in the* ***Calibration independent Options****-Edit-List or if the correction in the list was not successful.*

The *Maximum Picture Size*-Edit-Group

In this edit group, the maximum picture size can be specified, that will fit on the Material. That would give Pjannto RIP® the possibility to warn, if the over all print size gets over that limits. The width or lenght of the maximum print size will be considered only, if the appropriate check box is checked.

The *Calibration dependent Options*-Edit-List

In this edit list options can be set, that depend on the printer model respectively on the printer driver of the underlying Printer-Setup. The options of this list influence the color calibration and changes may have to be compensated by generating new linearisation curves!

The *Calibration independent*-Edit-List

In this edit list options can be set, that depend on the printer model respectively on the printer driver of the underlying Printer-Setup. The options of this list do not influence the color calibration.
If the check box in front of a list entry is checked, the entry will appear in the ***Options***-Tab-View of the ***Output-Setup***-Dialog and in the ***Output Options***-Tab-View of the ***Print-Job-Settings***-Dialog. So the option can be used in the Production Mode. The values are given here are the default values for new created Output-Setups and will be overwritten by the values of the overlying Output-Setups.

The *Linearisation*-Tab-View

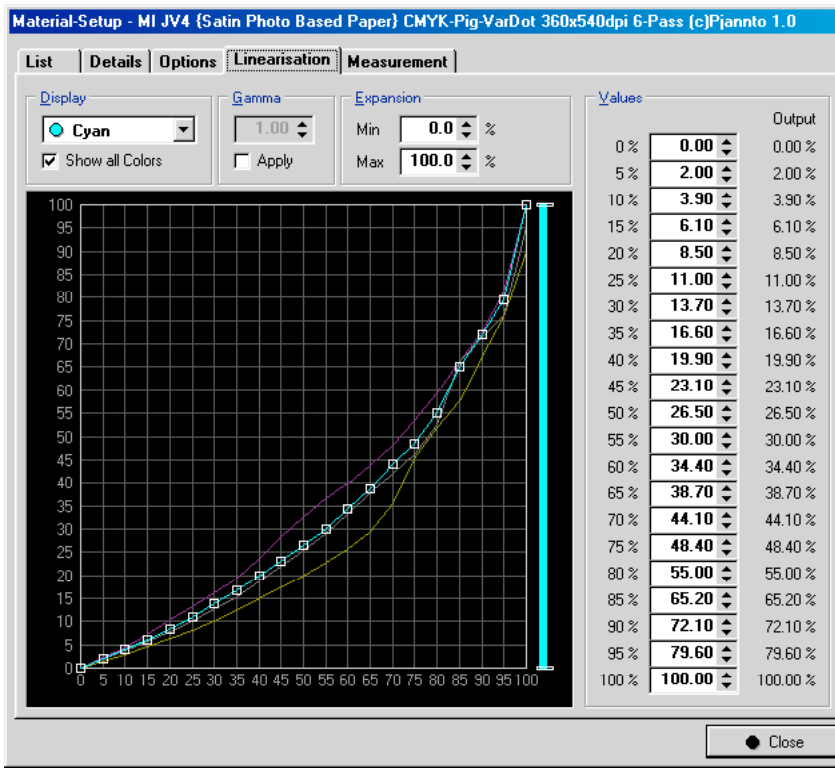

Fig. 47: The *Linearisation*-Tab-View of the *Material-Setup*-Dialog.

The internal color engine of Pjannto RIP® converts the colors of the graphic into the color model of the ***Details***-Tab-View. The linearisation curves of this tab view are used for the linearisation of the color output. The meaning of linearisation is to get sure, that an example color of 50% cyan in the graphic data will result in a color output of 50% on the material. In this figure a 50% cyan output can be reached, if a value of 26,5% cyan (in the vertical axis) is printed effectively instead of 50% (in the horizontal axis).

The fundamental technical problem can be described as follow:
The color value of an area in a graphic defines the partial amount of the area that has to be filled with the given color effectively. The remain partial area keeps the color of the

material. Usually the paper color white. When Pjannto RIP® calculates the amount of color dots (dot positions) that has to be possibly colored with ink, as an example, normally the targeted partial amount of the area is not targeted. The print technic can not fullfill this demand in reality, because ink drops will not have the size that is theoretically needed, laser beams are not absolute sharp at their edges and so on. To compensate these effects 26,5% of cyan has to be printed to target 50% of area coverage in this example.
For this matter the linearisation curves diagram oppose the output target on the horizontal axis to the effective needed output values on the vertical axis.

The values of the linearisation curves can be determined by extensive test prints of color charts by an expert (see in the ***Output Test File***-Submenu of the ***File***-Menu in the Control Window) or by reading special color charts with an external colorimeter (a color reading device). To use a colorimeter is recommended and can be done with the ***Print Color Chart…***-Button of the ***Measurement***-Tab-View. More about the needed expert knowledge to generate linearisation curves and about the possibility of our services read in the chapter „Reference Files“.

The *Display*-Edit-Group

In this edit group the color channels can be defined, that shall be displayed and be edited in the diagram.

The *Gamma*-Edit-Group

This edit group can change the definition mechanism of each separate channel.
Is the ***Active***-Check-Box checked, the curve of the selected channel will be defined with the value of the ***Gamma***-Edit-Field. A value of „one“ will result in a diagonal curve. That means the source values will be unchanged. A value less than „one“ makes the colors of the channel more light and a value greater than „one“ makes them more dark.
Is the ***Active***-Check-Box unchecked the curve can be edited manually per mouse.

The *Expansion*-Edit-Group

Here the minimum and maximum values of the linearisation curve can be defined independent from the singular values of the curve points.

The *Values*-Edit-Group

Here the single values of the curve points can be specified. The value edit fields can be activated or deactivated by clicking the accordingly control points of the curve in the diagram with the right mouse button. If a value edit field respectively the corresponding control point is deactivated, the value will be calculated automatically and the numerical value is displayed in the edit field.

The *Linearisation-Curves-Diagram*-Edit-Group

By clicking the control points of the curves by pressing the right mouse button, they can be activated or deactivated. Is a control point activated, it can be moved with the mouse. that will result in a change of the value in the value edit field. By clicking and moving the ends of the spreading bar, the expansion can be changed manually. The values of deactivated control points will be calculated automatically.

Linearisation-Curves-Diagram-Context-Menu

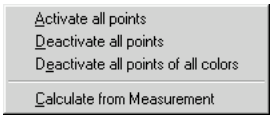

Fig. 48: The context menu of the *Linearisation-Curves-Diagram*.

The *Activate all Points*-Commad

This menu entry activates all points of the selected color channel in the diagram.

The *Deactivate all Points*-Command

This command deactivates all points of the selected color channel in the diagram.

The *Deactivate all Points of all Colors*-Command

Here all points of all color channels in the diagram will become deactivated.

The *Calculate from Measurement*-Command

This menu entry calculates new linearisation curves out of the measurement curves in the ***Measurement***-Tab-View. See „The ***Measurement***-Tab-View“.

The *Measurement*-Tab-View

The ***Measurement***-Tab-View is elaporated in a way, that it generates more optimized measure curves out of the measured values of a calibration color chart. This optimization gets step by step better to a point, where only little fluctuational changes will appear, if the user trys to make it more optimal by an additional measure step. That is a quickly recursiv process and will work fine, if the curves will monotinic increasing. A color calibration step means, that the user has to go through the proceeding to print a calibration color chart with the actual measurement curves by pressing the ***Print Color Chart…***-Button. Afterwards to measure the color value of this chart with the ***Measure…***-Button and offset them against the actual measurement curves to calculate new and more optimal actual measurement curves.
The trick is to define the first start measurement curves, that the process will work very quick and in high quality. Has the material printed on a high dot gain (That means a sole ink drops will cover much more area as it should be, because they getting more fat, if they are absorbed by the material.), we recommend start measurement curves that are generated by the ***Preset for first Printout (70% effective Output at 50% target Output)***-Command by the ***Mesurement Curves Diagram***-Context-Menu. When the first calibration color chart is printed with this actual measurement curves, the result of the print looks much more harmonic, the quality of the following measuring gets much better and often there is no second printing and measuring needed. In all other cases use the diagonal measurement curves for the first print in all color channels, except you know how to generate own start measurement curves individual for the material to be color calibrated. While the processing of the color calibration, only at the beginning and at the ending of the measurement curves the characteristics must be observed carefully, because there flattening can occur, that could disturbe the approximation process. With intelligent presettings of the curves, often only a single print and measure circle is necessary.

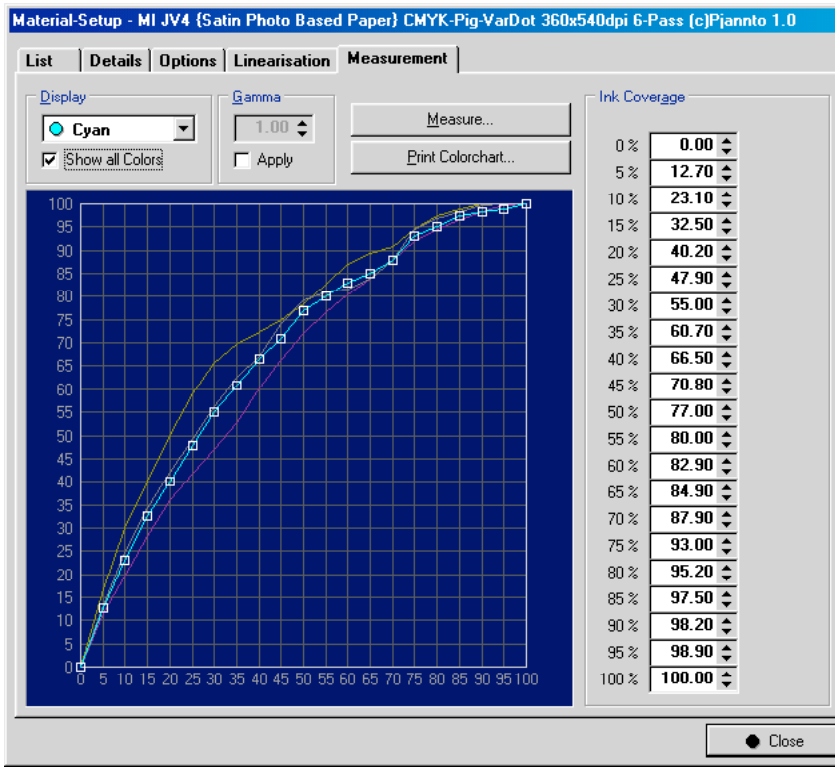

Fig. 49: The *Measurement*-Tab-View of the *Material-Setup*-Dialog.

The measurement curves diagram is nearly similar to the linearisation curves diagram of the ***Linearisation***-Tab-View, but the axis are interchanged. Here the value comparision is displayed out of the perspective of the effective printed color values. On the horizontal axis the target color values are opposed the effective printed and measured color values on the vertical axis. More clear: For example, if a color value of 50% cyan in a graphic shall be targeted (horizontal axis), the effectively targeted value of 77% is displayed in the curve (vertical axis). It has to be printed a value of 50% cyan to target a value of 77% cyan, that is described as a source value in the data of a graphic. To explain the need of interchange the axis in comparision to the linearisation curves: Pjannto RIP® is not able to use the measurement curves diagram directly. Because, if Pjannto RIP® is printing it isn't the job to predict the result of printing the user will get out of a specific graphic, but Pjannto RIP® shall target the values of this graphic as close as possible. That can be done only directly by using a linearisation curves diagram. This is the reason, why the measurement curves diagram has to be converted into a linearisation curves diagram. To

understand and avoid the problems, that can be connected with the conversion process, please read the part „Conversion of Measurement Curves Diagrams into Linearisation Curves Diagrams“.

The measurement curves diagram is structured, that the values of the edit fields bear relation to the color fields of a calibration color chart. The values that should be targeted are on the horizontal axis of the diagram and the values that are effectively printed and measured are on the vertical axis.

To print the calibration color chart with the values of the actual measurement curves diagram and without any other settings that can influence the colors, the ***Print Color Chart…***-Button has to be used. The printed calibration color chart can be evaluated visually by an expert and the values of the measurement curves diagram can be corrected manually. Or the calibration color chart can be measured by an external colorimeter by pressing the ***Measure…***-Button and Pjannto RIP® will calculate the new measurement curves values. A measure process will be much better and quicker, than a visual evaluation. To read more about the expert knowledge and the service we will offer, please see the chapter „Reference Files“.

The *Display*-Edit-Group

In this edit group the color channels can be defined, that shall be displayed and be edited in the diagram.

The *Gamma*-Edit-Group

This edit group can change the definition mechanism of each separate channel.
Is the ***Active***-Check-Box checked, the curve of the selected channel will be defined with the value of the ***Gamma***-Edit-Field. A value of „one“ will result in a diagonal curve, that means the values will be unchanged. A value less than „one“ makes the colors of the channel more dark and a value greater than „one“ makes them more light.
Is the ***Active***-Check-Box unchecked the curve can be edited manually by the mouse.

The *Measure…*-Button

By pressing this button a calibration color chart can be measured with an external colorimeter. For a detailed description, please read the part „The ***Colorimeter***-Dialog“.

The *Print Color Chart…*-Button

With this button a calibration color chart for the external colorimeter can be printed, that is defined in the ***Application Settings***-Dialog. To print the calibration color chart with the values of the actual measurement curves diagram, this diagram has to be converted into a linearisation curves diagram. If this will result in an error, please have a look to the part „Conversion of Measurement Curves Diagrams into Linearisation Curves Diagrams“ for

help. Before the first print of a calibration color chart will the measurement curves should be preset as diagonals or by the ***Preset for first Printout (70% effective Output at 50% target Output)***-Command of the ***Measurement Curves Diagram***-Context-Menu or to an other reasonable characteristic. In the ***Print-Job-Settings***-Dialog, that appears to start the print the calibration color chart, the settings that could influence the color output will be disabled.

The *Ink Coverage*-Edit-Group

Here the single values of the curve points can be specified. The value edit fields can be activated or deactivated by clicking the accordingly control points of the curve in the diagram with the right mouse button. If a value edit field respectively the corresponding control point is deactivated, the value will be calculated automatically.

The *Measurement-Curves-Diagram*-Edit-Group

The control points of the curves can be activated or deactivated, by clicking them with the right mouse button. Is a control point activated, it can be moved with the mouse, which will result in a change of the numerical value in the value edit field. The values of deactivated control points will be calculated automatically.

***Measurement-Curves-Diagram*-Context-Menu**

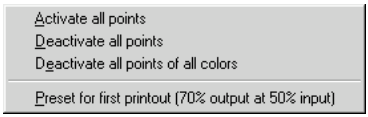

Fig. 50: The context menu of the *Measurement-Curves-Diagram*.

The *Activate all Points*-Command

This menu entry activates all points of the selected color channel in the diagram.

The *Deactivate all Points*-Command

This command deactivates all points of the selected color channel in the diagram.

The *Deactivate all Points of all Colors*-Command

Here all points of all color channels in the diagram will get deactivated.
This command has to be executed before the first print of the calibration color chart to preset the measurement curves reasonable. Except the ***Preset for first Prinout (70% effective Output at 50% target Output)***-Command is used.

The *Preset for first Printout (70% effective Output at 50% target Output)*-Command

A lot of materials similar to paper will have more harmonical first calibration color chart prints, if this command will be used for presetting the measurement curves for the first print. Because, if a calibration color chart field will be printed on this materials with a graphic color value of 50% as a target, the effective output is something around 70% of color coverage, when there is no correction.

The *Colorimeter*-Dialog

This part describes how a linearisation can be generated by printing and measuring a calibration color chart with a colorimeter. As an example, the proceeding is explained with the colorimeter X-Rite DTP-41. Dependent on the version of Pjannto RIP®, there can be different external colorimeters be selected in the ***Application Settings***-Dialog of the ***Administration***-Menu in the Control Window. By using other colorimeters as the X-Rite DTP-41, the proceeding can be a little bit varying. Please consider the instructions in the status line and the user manual of the colorimeter.

Now it will follow a little description of the ***Colorimeter***-Dialog.

The *OK*-Button

With OK the measured values will be offset against the values of the measurement curves diagram in the ***Measurement***-Tab-View.

The *Cancel*-Button

This button closes the ***Colorimeter***-Dialog without changing the measurement curves diagram in the ***Measurement***-Tab-View.

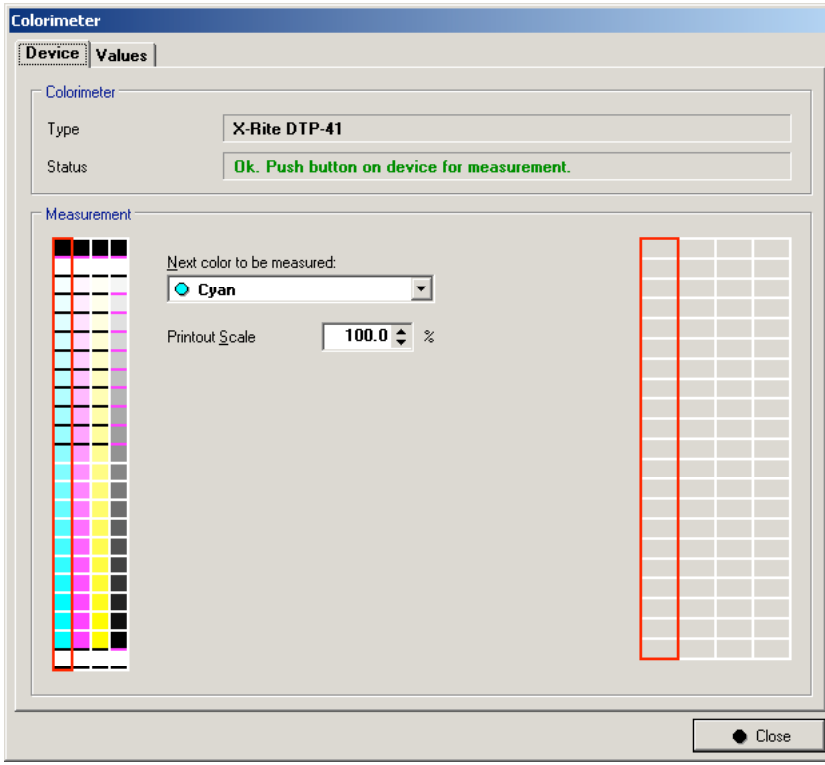

Fig. 51: The *Device*-Tab-View of the *Colorimeter*-Dialog of the *Measurement*-Tab-View before the first measure.

The ***Colorimeter***-Dialog status line leads through the measure proceeding of the ***Device***-Tab-View. Please consider the instructions, notes and error reports of the status line.

The *Colorimeter*-Edit-Group

Here the type of colorimeter and the state of the device is displayed.

The *Measurement*-Edit-Group

In this edit group the state of measurement is displayed. While printing the calibration color chart a scaling of the chart could be defined to print on smaler paper sizes. The correct scaling of the calibration color chart has to be given in the ***Printout Scale***-Edit-Field, that the colorimeter will know, where the color areas of the chart will be positioned. The border in red markes the color channel for the next measure step.

To measure the appropriate color channel with the X-Rite DTP-41 the color channel of the chart has to be positioned under the position line on the body of the colorimeter. Please see the usermanual of the colorimeter. To start the measuring of the X-Rite DTP-41 press the measure button of the device. The color channel of the chart is moved to pass the optical measure unit automatically. To garantee the success of the measuring process with the X-Rite DTP-41 the calibration color chart has to be led with the fingers, that all color areas of the channel will pass the optical unit centrical. The effective measured colors will be displayed in the right chart of this edit group. So it can be visual controlled, if the correct color channel is measured. When the measure process was inconsistent, the status line will display an error report. Than the measure process for the last channel has to be retried. All color channels have to be measured by this method.

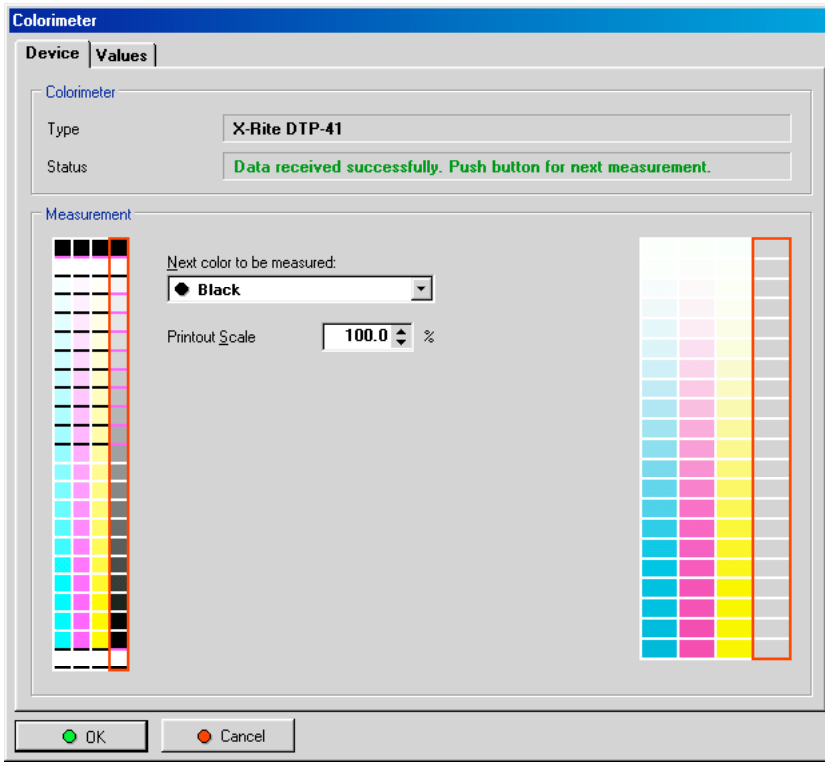

Fig. 52: The *Device*-Tab-View of the *Colorimeter*-Dialog of the *Measurement*-Tab-View before the last measure.

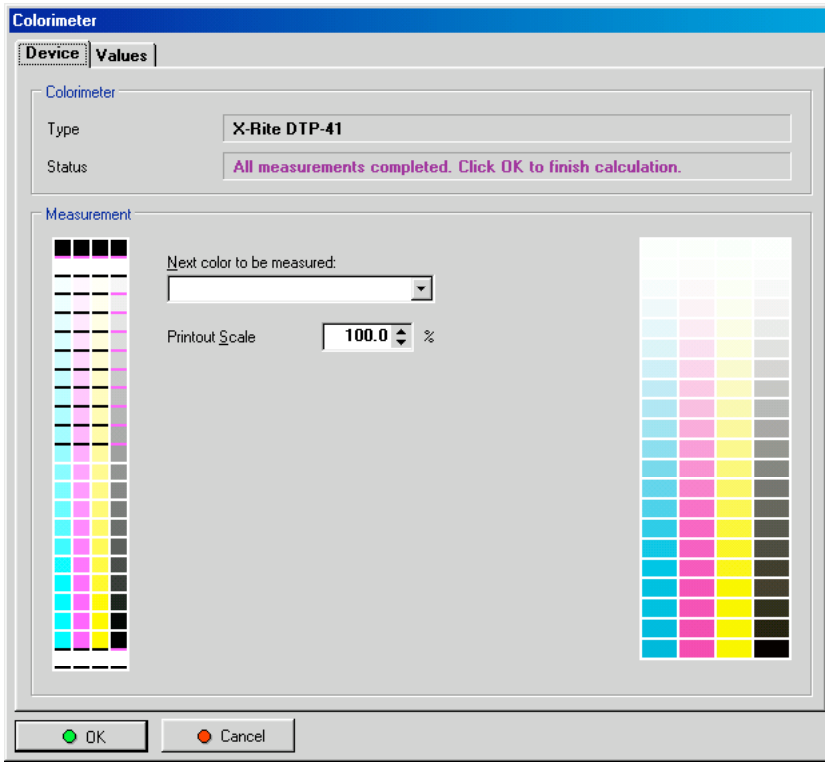

Fig. 53: The *Device*-Tab-View of the *Colorimeter*-Dialog of the *Measurement*-Tab-View after the last measure.

After the last measuring step you have to go to the ***Value***-Tab-View to control the measure values and to correct them reasonable. Than the measure values can be offset again the measurement curves of the ***Measurement***-Tab-View.

A measurement is a non statical process. Even so the enviroment seems to be the same there would be usually no measurement the same as an other one, because the measuring depends on a lot of different parameters. As an example, how pass the color channel fields of the calibration color chart and their spreaded ink dots the optical unit. What is the temperature of the colorimeter. So far a measuring process is unique and will generate in similar circumstances similar results, but not the same results.

In summary, often the measurement results in measure curves can not be offset against the measurement curves without correction. A measure curve that contains relevant problems could look like the following one:

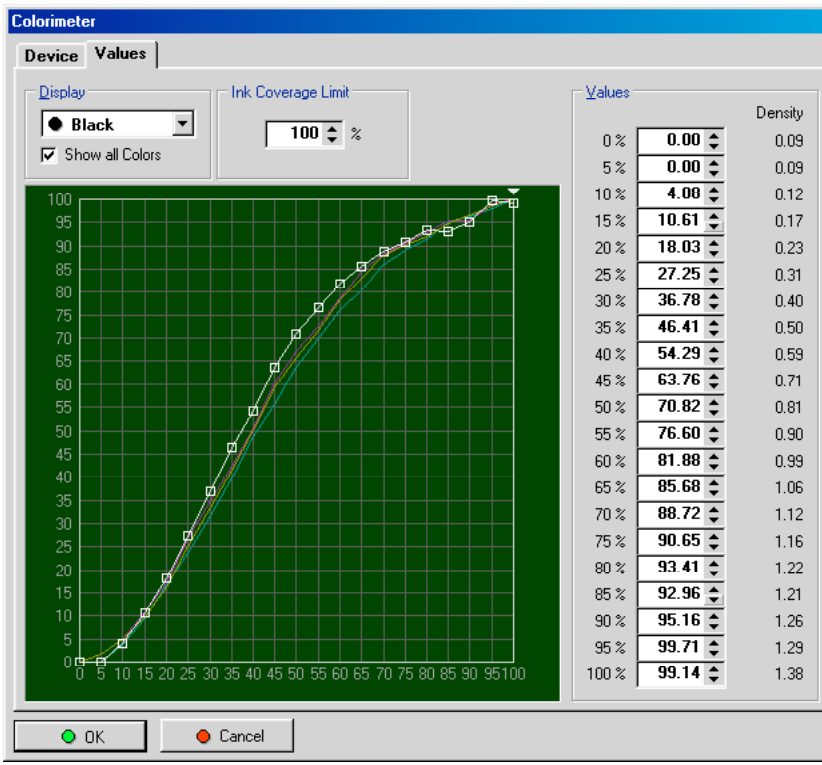

Fig. 54: The *Value*-Tab-View of the *Colorimeter*-Dialog of the *Measurement*-Tab-View with an example of an uncorrected measuring that contains usual problems.

At first a description of the dialog elements.

The *Display*-Edit-Group

In this edit group can be determined the color channels that should displayed and the one that can be edited.

The *Ink Coverage Limit*-Edit-Field

This value determines the maximum of color channel coverage. That means the color tint from where the greater ones will not result in an effective more intensive visual color or unusual effects will appear. Unusuall effects can be, that the material is not able to absorb the full ink amount or the ink film gets chapped. This value has to be determined by the user, because the optical unit of the colorimeter is not able to evaluate it.
This value can be edited in the measurement curves diagram by the mouse, too.

The *Values*-Edit-Group

Here the effective measured values are opposed tabularly the target values. If the hole measurement proceeding is ready and the measurement curves in the ***Measurement***-Tab-View are correct a diagonal or something that is close to it should appear for every color channel. The value edit fields can be activated or deactivated by clicking the accordingly control points of the curve in the diagram with the right mouse button. If a value edit field respectively the corresponding control point is deactivated, the value will be calculated automatically.

The *Measurement Curves Diagram*-Edit-Group

This curves diagram differs from the one in the ***Measurement***-Tab-View of the ***Material-Setup***-Dialog. In this diagram the differences between the target output and the effectively printed output is displayed. So this diagram is relative to the actual measurement curves diagram, which was used to print the calibration color chart that was just measured.
The displayed values of this dialog have to be offset against the values of the ***Measurement***-Tab-View, if this dialog is quitted.
Additional in this diagram the ink coverage limit can be edited, that corresponds with the ***Ink Coverage Limit***-Edit-Field.
By clicking the control points of the curves with the right mouse button, they can be activated or deactivated. Is a control point activated, it can be moved with the mouse, which will result in a change of the numerical value in the value edit field. The values of deactivated control points will be calculated automatically.

***Measurement Curves Diagram*-Context-Menu**

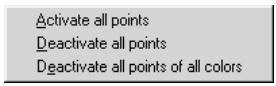

Fig. 55: Context menu of the *Measurement Curves Diagram*.

The *Activate all Points*-Command

This menu entry activates all points of the selected color channel in the diagram.

The *Deactivate all Points*-Command

This command deactivates all points of the selected color channel in the diagram.

The *Deactivate all Points of all Colors*-Command

Here all points of all color channels in the diagram will get deactivated.

To be able to offset this diagram reasonable against the values of the ***Measurement***-Tab-View the measure curves have to be conform with some claims. Each curve has to be strictly monotonic increasing. Except the begin and the end, where are more exact equal values will be accepted. Strictly monotonic increasing means, that every value that follows a value has to be greater, then the one before. Here with the exception of the first and the last values, that can be equal. But not all values of the curve are allowed to be equal.
In this example, at two points this claim is not achieved by the black color channel. At first the value of the 85% field is with 92,96% lower than the value of the 80% field with 93,41%. This has to be corrected by the user. Fluctuations like this at points, where the curve is increasing in general can be generated by the used dither method, by color mixing effects or by print or measure inaccuracy. Here an expert user has to decide how the correction has to be made. In this case a deactivation of the 85% control point is recommended, that results in an adjustment between the values of the 80% field and the 90% field. A deactivation is not in general the right solution, because it will not ever lead to a strictly monotonic increasing curve. Altogether the changes of control points should result in less differences to the original measured values, depending on the visual evaluation of the calibration color chart.
Something similar is necessary for the 100% field. But here an other way of correction is needed. The ink coverage of a color channel chart can not get greater from a specific value, when the color amount increases. Because the color may get fatter, but it can not cover more white material. Certainly this effect can only appear at the top respectively at the end of the curve. In this case it is obviously at 95%. Probably the fluctuation is influenced by jumping values dependent on the dithering method or by measurement inaccuracy. Correct this case with the ***Ink Coverage Limit***-Edit-Field. It can be changed by entering a new value or by clicking the ***Ink Coverage Limit***-Arrow in the measurement curves diagram with the mouse and moving the dashed line to the 95% value. The limit is to be set there, where the measured values starting to fluctuate at a high level.
An other problem exists at the beginning of the curve, because the first two values of the curve having the value 0%. If the calibration color chart would be printed with this curve, the 0% field of the black channel chart would contain a color of 5%. This is normally not the target. Here it is usual recommended to deactivate the 5% control point to get an adjustment between the value of the 0% field and the value of the 10% field. This problem can be engendered in dependency of the dithering method by the optical unit of the colorimeter, that may has measured between to drops of ink and detected white instead a

tint of black, because the measure area is to smal. Please have a look, if the used colorimeter can be switched to the measurement of a low resolution dithering.

Ever again while the correction of the curves the user should have a look to the measured chart to become able to make reasonable corrections. Because the corrections have to base on the visual evaluation of the problems that must be solved.

A corrected curve should look similar to the following one:

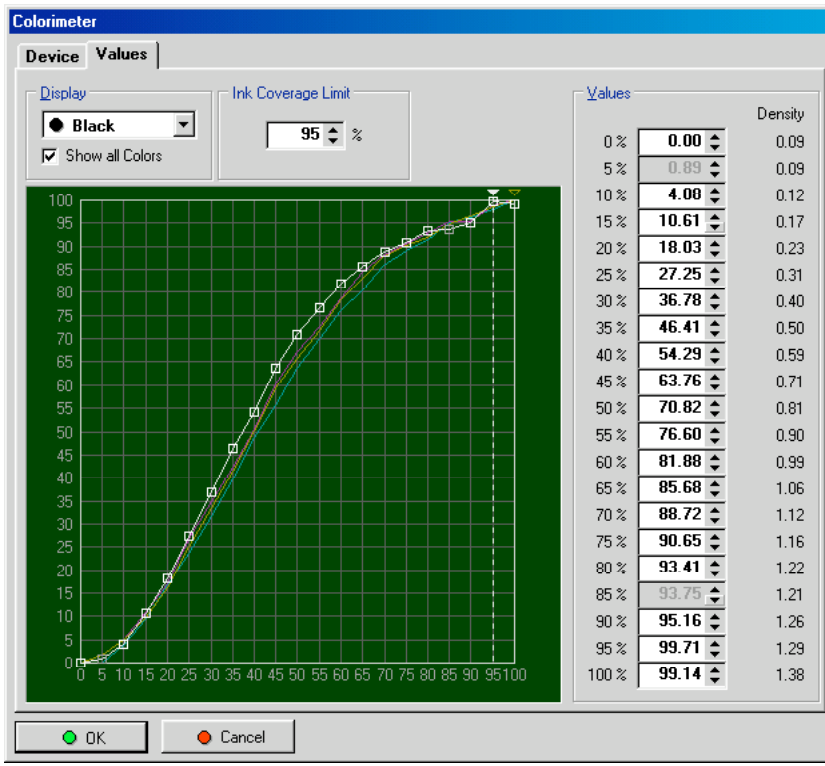

Fig. 56: The *Value*-Tab-View of the *Colorimeter*-Dialog of the *Measurement*-Tab-View with an example of a corrected measuring.

Was the measuring process successful, close the dialog by pressing OK.

The user will have to answer the following confirmation:

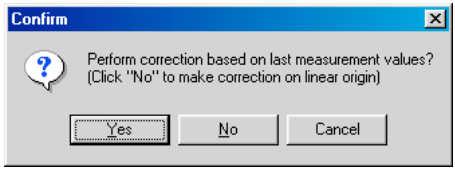

Fig. 57: The mesurement correction confirm of the *Colorimeter*-Dialog.

If the mesasured values of the calibration color chart depend on the values that are actual in the ***Measurement***-Tab-View, then the user has to answer with the ***Yes***-Button to execute the offset of the yet measured values against the actual values of the ***Measurement***-Tab-View.
If the measured values of the calibration color chart are not depending on the actual values of the ***Measurement***-Tab-View, but on linear values of the ***Measurement***-Tab-View that have been used for printing the calibration color chart, then press the ***No***-Button and the just measured values will be taken over to the ***Measurement***-Tab-View as they are. When both os untrue the user has to press the ***Cancel***-Button to lose the just measured values. A new print of a calibration color chart has to be made and measured.

Conversion of the Measurement Curves Diagram into the Linearisation Curves Diagram

Will be switched from the ***Measurement***-Tab-View to an other tab view or is the ***Material-Setup***-Dialog closed with pressing the ***OK***-Button, it will be asked, if the measurement curves diagram shall be converted into the linearisation curves diagram. If yes, that will be done by mirroring the curves at the main diagonal of the diagram:

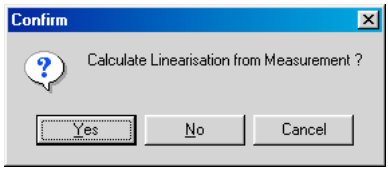

Fig. 58: The *Calculate new Linearisation*-Confirm-Dialog of the *Mesurement*-Tab-View of the *Material-Setup*-Dialog.

The *Yes*-Button

This command will start the conversion of the measurement curves diagram into the linearisation curves diagram. Fails the conversion, please see in the following description for help.

The *No*-Button

Here no conversion of the measurement curves diagram to the linearisation curves diagram will be executed, but the originally action will be proceeded. The conversion process can be done later, too.

The *Cancel*-Button

Here no conversion of the measurement curves diagram to the linearisation curves diagram will be executed and the originally action will be canceled. The conversion process can be done later, too.

Only with linearisation curves the color engine of a print software can compute the correction of the colors, because only the linearisation curves describing directly how to calculate the new color values, that the effective printed values can target the target values. That is the reason, why the measurement curves diagram has to be converted into a linearisation curves diagram. In both cases the values of the axis are interchanged by mirroring the curves at the main diagonal.

The conversion can fail, because of the following reasons: Are not all curves in the measurement curves diagram strictly monotonic increasing. That will say, not all values of a curve are greater than the ones directly before, except the ones at the beginning and the ending, which can be equal. Than the measurement curves diagram is not mirrorable at the main diagonal and can be not converted into a linearisation curves diagram. The reason is, that a curve can not have to values at the vertical axis opposed to one value at the horizontal axis. And that is, because the color engine of a print software could not know, which of the both or more effective values on the vertical axis it should print to get the target value on the vertical axis. This would be an ambiguity, that could not be avoided.

This probelm would cause the following error dialog:

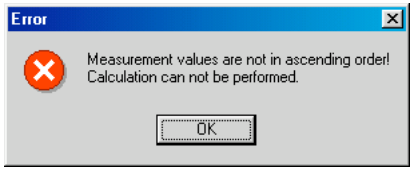

Fig. 59: Error dialog that appears, if a conversion of the measurement curves

diagram into a linearisation curves diagram fails.

If this error dialog appears, the user has to correct the values of the measurement curves diagram, that they will achieve the necessary claims. The user must be aware to adulterate the measurement not improper. The smallest differences to the claims will result in the fail of the conversion. So investigate the values painstaking to remove all reasons for the fail. Also differences in the last decimal position can cause the fail.
Especially the values at the top respectively the ending of the curves close to 100% can varying a bit. So the user has to make them equal.

2.2.5 The *Printer-Setup*-Dialog

The ***Printer-Setup***-Dialog can be opened with the ***Administration***-Menu of the Control Window (than it will contain a list of all Printer-Setups) or it can be opened with the context menu of a Printer-Setup in the ***Setup-Structure***-Tree of the Control Window (than it will contain no list of all Printer-Setups). By clicking the tab view ***Details*** the contained parameters can be edited, that are hidden behind an entry of the list.

In this dialog you can specify a printer driver for a printer. It can be defined the default print output rotation for the printer and the folder in the file system, where the generated output data for the printer has to be stored. Normally this storage path should be equal to the related one in the Plot-Manager, so that the Plot-Manager can send the data to the appropriate interface for the printer.

The *Close*-Button

This command closes the ***Printer-Setup***-Dialog.

The *List*-Tab-View

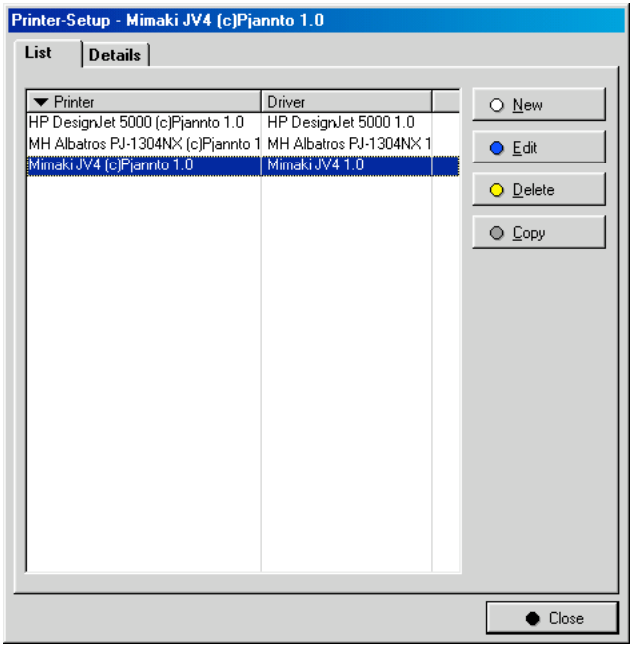

Fig. 60: Der *Liste*-Reiter des *Drucker-Setup*-Dialogs mit beispielhaften Setup-Einträgen.

The *Printer-Setup*-List

In this list all Printer-Setups of Pjannto RIP® are displayed with their underlying printer drivers.

The *New*-Button

Here a new Printer-Setup will be generated.

The *Edit*-Button

This button switchs to the ***Details***-Tab-View to edit the settings of the marked Printer-Setup.

The *Delete*-Button

This command deletes the marked Printer-Setup off the list.

The *Copy*-Button

With this the marked Printer-Setup will be duplicated to use the informations of the old one as a template for a new one.

The *Printer-Setup-List*-Context-Menu

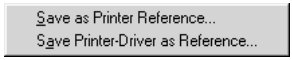

Fig. 61: The context menu of a Printer-Setup of the *List*-Tab-View of the *Printer-Setup*-Dialog.

The *Save as Printer-Reference…*-Command

Saves the marked Printer-Setup into a single Printer-Reference file, together with all underlying setups and inclusive the printer driver. A Reference file can be imported later on by the ***Import Reference…***-Command of the ***File***-Menu in the Control Window, to install all contained setups and the printer driver. See also chapter: „Reference Files“.

The *Save Printer-Driver as Reference…*-Command

Saves only the printer driver of the marked Printer-Setup into a single Printer-Driver-Reference file. A Reference file can be imported later on by the ***Import Reference…***-Command of the ***File***-Menu in the Control Window, to install all contained setups and the printer driver. See also chapter: „Reference Files“.

The *Details*-Tab-View

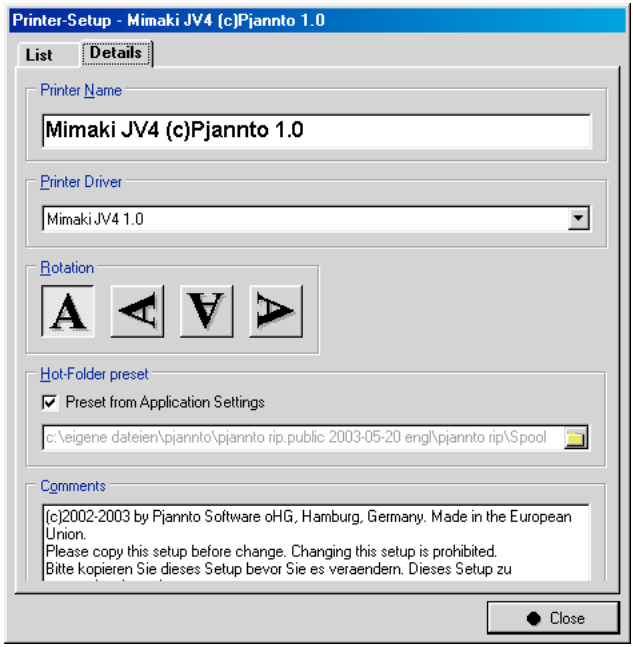

Fig. 62: The *Details*-Tab-View of the *Printer-Setup*-Dialog.

The *Printer-Setup Name*-Edit-Field

Here the name of the Printer-Setups is defined.

The *Printer Driver*-Popup-Menu

In this popup menu the printer driver can be selected, where the Printer-Setup shall depend on.

The *Rotation*-Edit-Group

This edit group sets the default print rotation of the printer.

The *Hot-Folder Preset*-Edit-Group

Here the file system path is set, where the print output data has to be stored. Usually this path should be the same as the corresponding one in the Plot-Manager, so that the Plot-Manager can send the data to the appropriate interface to the printer. The ***Preset from***

Application Settings-Check-Box uses the file system path of the ***Application Settings***-Dialog.

The *Comment*-Edit-Field

Here the user can notice some comments for this setup.

2.2.6 The *Print-Job-Settings*-Dialog

Is Pjannto RIP® in the Configuration Mode or the ***Extended Settings***-Check-Box of this dialog is checked, the lower setup levels, that underly the Output-Setup, will be displayed in additional tab views. Theses tab views displaying the settings of the Material-Setup and the Printer-Setup.

Note: *Only in exceptional cases the settings in the tab views of the lower setup levels should be changed. Changes in the* ***Print-Job-Settings****-Dialog do not change the settings of the original template setups. This changes are temporarily for this Print-Job active. It is recommended to structure the template setups of the lower setup levels, that there is normally no need to change the lower setup levels in the* ***Print-Job-Settings****-Dialog.*

In the ***Print-Job-Settings***-Dialog the user has the opportunity to define all parameter setting of the Print-Job.

Note: *The here described tab views and their parameter settings influences the print possibilities and the print quality substantially. Partly the settings only can be made with external colorimeters (color reading devices) or with a lot of expert knowledge. Please make changes to this tab views only, if it is clear for you what will happen.*
Because of the needed expert knowledge and the technical equipment, read in the the chapter „Reference Files“ how you can get calibrations and what kind of services we can offer.

The *Material*-Tab-View

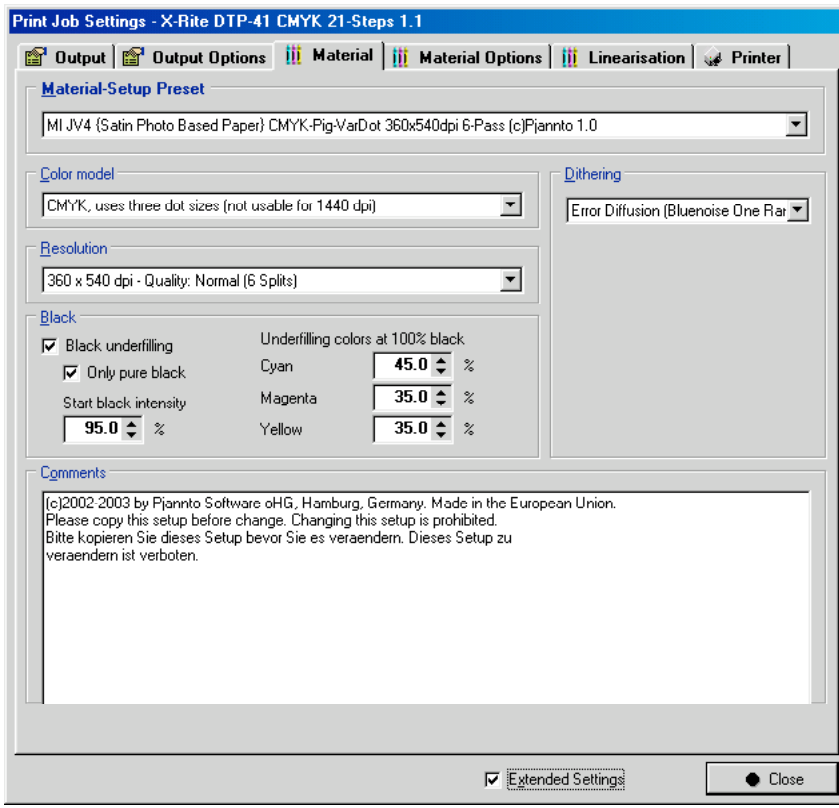

Fig. 63: The *Material*-Tab-View of the *Print-Job-Settings*-Dialog in the Configuration Mode.

The settings of this tab view can influence the color output. The changes may have to be compensated by generating new linearisation curves in the ***Linearisation***-Tab-View.

The edit fields of this tab view, that are not decribed here, are the same as the corresponding ones of the ***Details***-Tab-View of the ***Material-Setup***-Dialog in the chapter „The ***Material-Setup***-Dialog“.

The *Material-Setup Preset*-Popup-Menu

In this Popup-Menu a Material-Setup can be selected as template for the ***Material***-Tab-View and the ***Material Options***-Tab-View. That can be result in the selection of a different printer driver. Will the settings be changed, after the template setup was chosen, the additional text „*** Modified for this Job *** - …“ will be written before the preset setup name. This changes will not change the original setups!

The *Material Options*-Tab-View

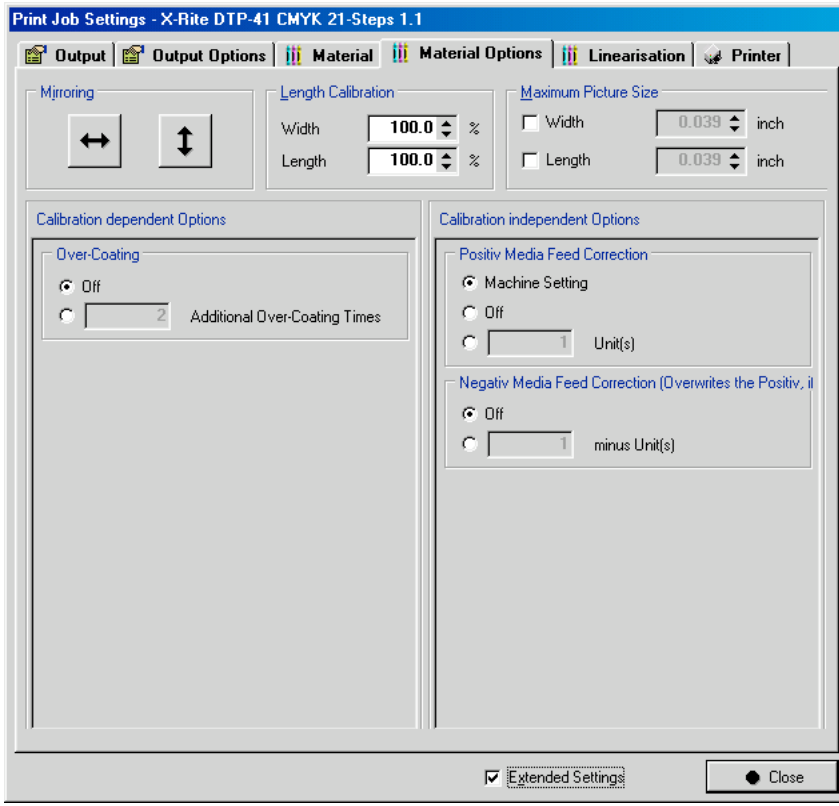

Fig. 64: The *Material Options*-Tab-View of the *Print-Job-Settings*-Dialog in the Configuration Mode.

The settings of the ***Calibration dependent Options***-Edit-List in this tab view can influence the color output. The changes may have to be compensated by generating new linearisation curves in the ***Linearisation***-Tab-View.

The edit fields of this tab view, that are not decribed here, are the same as the corresponding ones of the ***Options***-Tab-View of the ***Material-Setup***-Dialog in the chapter „The ***Material-Setup***-Dialog“.

The *Linearisation*-Tab-View

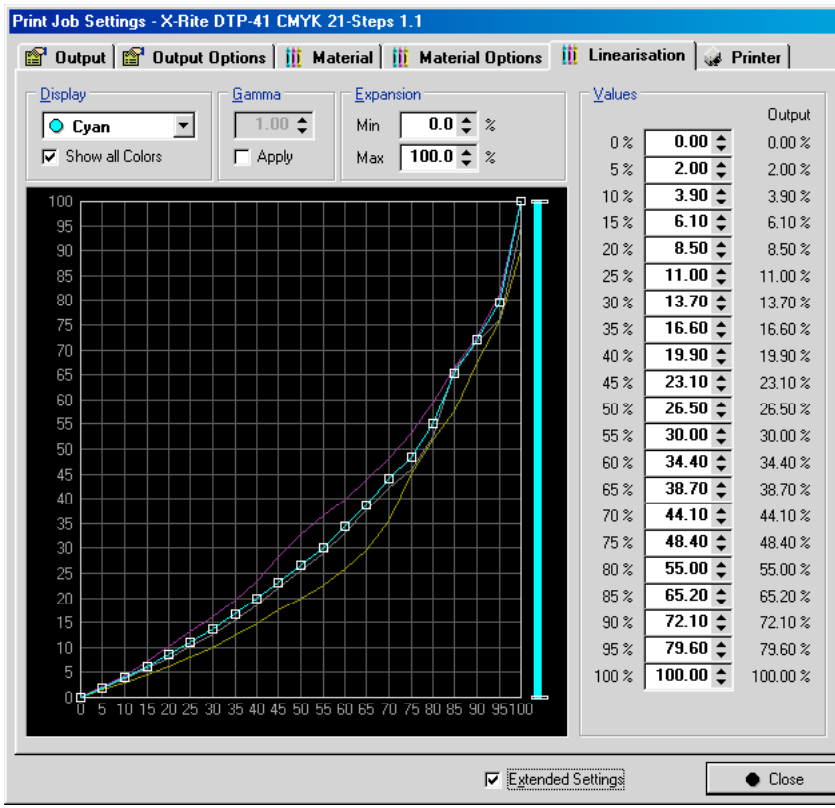

Fig. 65: The *Linearisation*-Tab-View of the *Print-Job-Settings*-Dialog in the Configuration Mode.

The edit fields of this tab view are the same as the corresponding ones of the ***Linearisation***-Tab-View in the ***Material-Setup***-Dialog in the chapter „The ***Material-Setup***-Dialog“.

The *Printer*-Tab-View

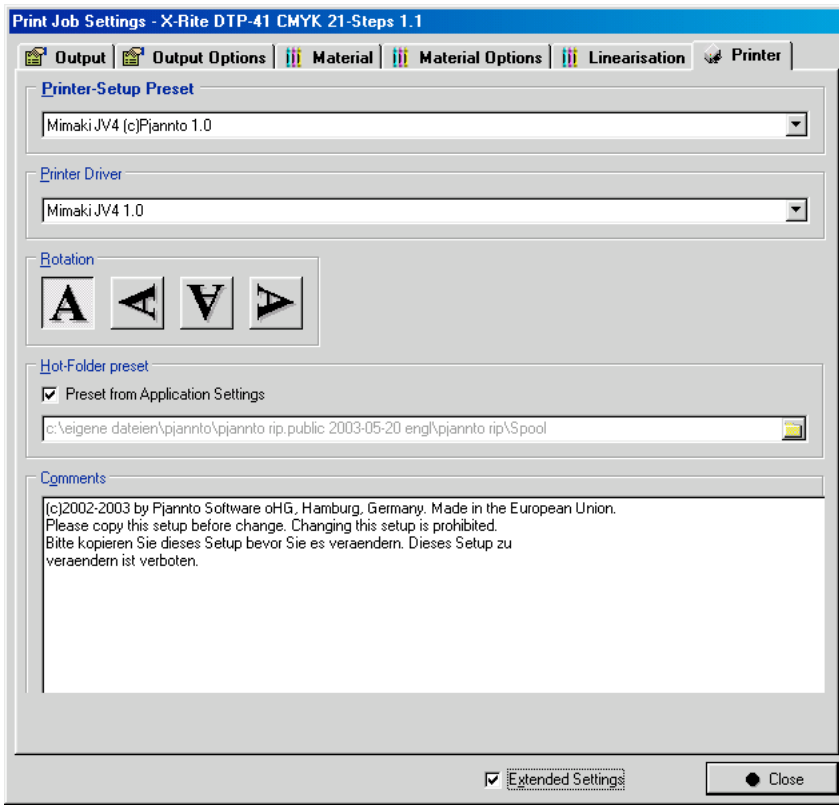

Fig. 66: The *Printer*-Tab-View of the *Print-Job-Settings*-Dialog in the Configuration Mode.

The settings of this tab view can influence the color output. The changes may have to be compensated by generating new linearisation curves in the ***Linearisation***-Tab-View.

The edit fields of this tab view are the same as the corresponding ones of the ***Details*** -Tab-View of the ***Printer-Setup***-Dialog in the chapter „The ***Printer-Setup***-Dialog“.

2.2.7 The *Application Settings*-Dialog

In the Configuration Mode the ***Application Settings***-Dialog is extended by some additional opportunities. Only the additional tab views and edit fields are decribed here, that are not aviable in the Poduction Mode.

The *General*-Tab-View

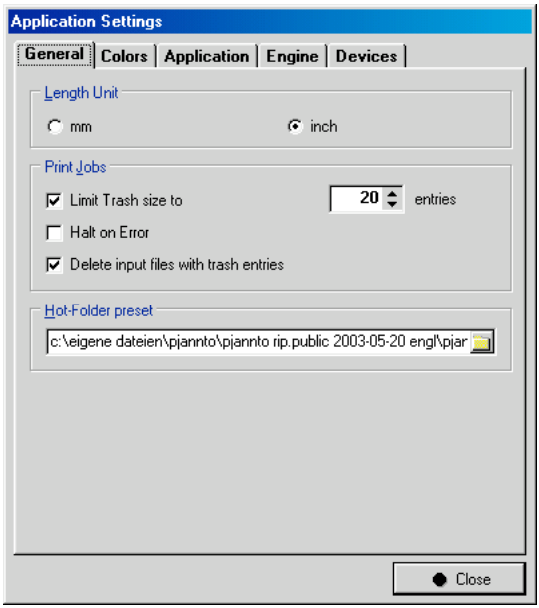

Fig. 67: The *General*-Tab-View of the *Application Settings*-Dialog in the Configuration Mode.

The edit fields of this tab view, that are not described here, are the same as the corresponding ones, if the Configuration Mode is off. See the main chapter „The Production Mode“.

The *Print-Jobs*-Edit-Group

In the Configuration Mode there is additionally the possibility to define, if the graphic files of the corresponding Print-Jobs should be deleted, when the Print-Jobs will be

deleted off the Trash list. This possibility can be defined with the ***Delete input File with Trash Entries***-Check-Box.

The *Hot-Folder Preset*-Edit-Group

Now the default preset for the file system folder can be changed, where the print data is stored normally. This file system path should be the same as the corresponding one in the Plot-Manager, so the print data will be send to the correct interface for the printer.
This information is used as default, if new Printer-Seupts will be created or if Reference files are imported.

The *Application*-Tab-View

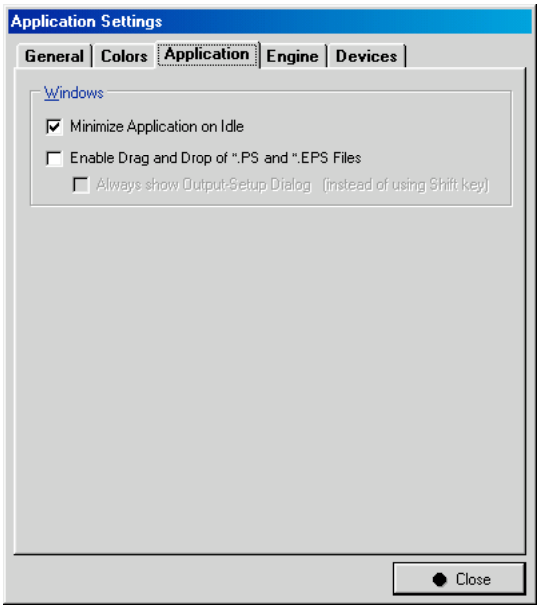

Fig. 68: The *Application*-Tab-View of the *Application Settings*-Dialog in the Configuration Mode.

The *Windows*-Edit-Group

Minimise Application on Idle-Check-Box: If this check box is checked, the program Pjannto RIP® Control will be minimized into the Tray-Bar after the processing of all Print-Jobs.
Enable Drag and Drop of *.PS and *.EPS Files-Check-Box: By checking this check box it gets possible to drag PostScript®-Files as Print-Jobs into the Print-Job-Queue.
Always show Output-Setup Dialog (instead of using Shift Key)-Check-Box: If this check box is checked, the ***Print-Job-Settings***-Dialog will get open, if files will be dropped into the Control Window. Otherwise the Default-Output-Setup will be used for printing and the ***Print-Job-Settings***-Dialog will get open only, if the shift key was pressed as the file was dropped.

The *Engine*-Tab-View

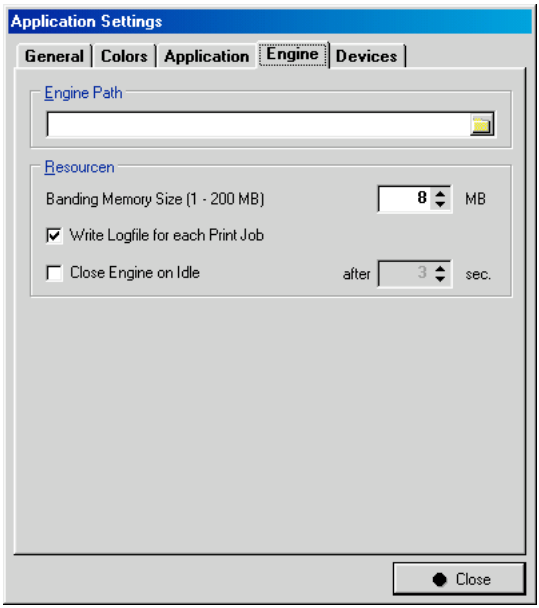

Fig. 69: The *Engine*-Tab-View of the *Application Settings*-Dialog in the Configuration Mode.

The *Engine Path*-Edit-Group

Here the file system path of the background program Pjannto RIP® Engine respectively „PjRipEngine.exe“ can be entered.
Is no path defined it will be assumed, that this program is in the same folder as Pjannto RIP® Control respectively „PjRipControl.exe“.

The *Ressources*-Edit-Group

Banding Memory Size-Edit-Field: Each print of Pjannto RIP® is devided into several print bands, that are ripped one after the other. Here the maximum memory can be defined, one band can allocate. Eight megabytes is a god working average value, in our experience.
Write Log File for each Print-Job-Check-Box: If this check box is checked, a log file for every single Print-Job is stored. The text in this file contains information about every single processing step the job is gone through. See chapter „The ***Print-Job Log File***-Window“.

Close Engine on Idle-Check-Box: If this check box is checked, the background program Pajnnto RIP® Engine will be closed, when there is nothing to be interpreted, nothing to be ripped and the given time is elapsed. Than the allocated memory will get free.

2.3 Reference Files

The concept of Pjannto RIP® to be free configurable and high flexible on one hand and to satisfy also users, that are not able or not willing to make a lot of configuration work on the other hand, is realized by using Reference files. With Reference files Pjannto Software can distribute preconfigurated setups together with the printer driver in one single file. Even every user has the opportunity to save Reference files of his own setups by the context menus of a setup list. For storing them as savety copies or for interchanging. Reference files can be importet later on by the ***Import Reference…***-Command of the ***File***-Menu in the Control Window. With this all the saved setups and printer drivers will be installed again. As an example, Reference files can be used by a company centrals to send them to every branch office to garantee a similar workflow all over the firm.

There are different types of Reference files. Depending on the highest level of the setup hierarchy the user likes to save. A Reference file will contain the saved setup and all underlying setups, upwards inclusive the printer driver.
The lowest Reference files are Printer-Driver-Reference files, that containing all printer driver files for one printer model. In this file format Pjannto Software distributes its uncalibrated printer drivers, that are not made for a specific material.
Than there are the Printer-Reference files. They containing additionally the Printer-Setup.
Afterwards there are the Material-Reference files. They containing also a Material-Setup, that was created for a specific material and one combination of print settings. This is the file format Pjannto Software uses for the distribution of material calibrations.
At last, there are the Output-Reference files, which containing also an Output-Setup. This type is made for the user, to save his output settings.

The *Import Reference*-Dialog

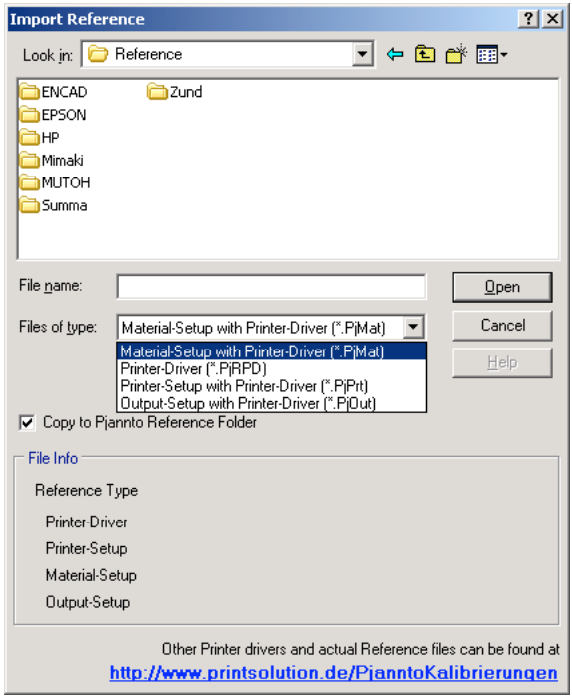

Fig. 70: The *Import Reference*-Dialog.

In the ***Files of type***-Popup-Menu the type of the Reference file is selectable. The ***File Info***-Display displays the names of the contained setups.

Note: *If there is no proper printer driver aviable by importing a delivered Reference file direct from the* ***Import Reference****-Dialog, please download a Reference file with the internet link in this dialog. Prefer to import or to download a Material-Reference instead a Driver-Reference, because the Material-Reference includes a printer driver, too, but a color calibrated Material-Setup as well. Probably you will get a much better printing result, even if you import a Material-Reference, that was not made for the same material you are using, but for a similar one, as to print without a color calibration. When there is no Material-Reference or no Driver-Reference, please contact the hotline of Eurosystems to clarify, how you can get a proper driver for your printer. In some circumstances there can be a possibility to develop new printer drivers, because Pjannto Software is exerted to create printer drivers for new and widespread older printer models. Please tell us your whishes, that we can get to a state, where we are able to develop close to the market. Though we can not satisfy every whish, because of costs and time.*

Because of the expert knowledge and the technical equipment, that is needed to create new Material-Setups, Pjannto Software is exerted to distribute as much as possible of the needed setups as Material-Reference files. Under certain circumstances we can offer the service to create Material-Reference files for our customers. Please contact the hotline of Eurosystems. But have the understanding, that we can not create Material-Reference files for every imaginable combination of printers, inks, materials, colormodels, resolutions and ditherings.

More than one Reference file can be selected and imported in one step in this dialog. When a Reference file is imported, all contained setups will be installed automatically. All setup levels, that are not contained in the file, will be created with default settings. Starting from the lowest setup level, that is not contained, upwards to the Output-Setup. Excepted the printer drivers, all setup names getting numbers at the end of their names, if their name exists and the contant is not the same as the contant of the existing one.

The *Pjannto Reference*-Window

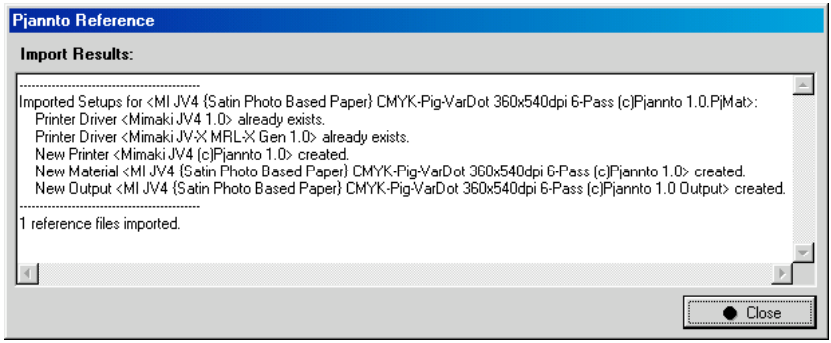

Fig. 71: The *Pjannto Reference*-Window with an example import of a Material-Reference.

This window reports the change of the setup structure by the import. The report gives the user the opportunity to keep the overview.

Shall a Reference file be imported, that containing no Material-Setup, the following warning will be generated:

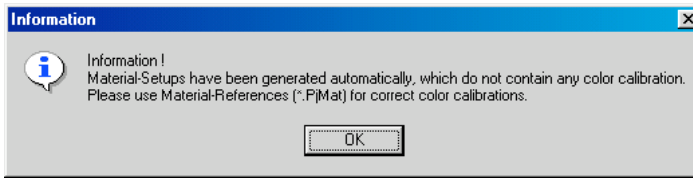

Fig. 72: Information, that the crated setups are uncalibrated.

This is the case, if Driver-Reference files will be imorted. Prefer Material-Reference files, if possible.

2.4 The ICC Color Management

The ICC Color Management is limited to the conversion of RGB colors to CMYK colors, at this time. The according settings can be selected in the ***Colors***-Tab-View of the ***Application Settings***-Dialog.

The ICC-Standard was founded by the International Color Consortium and is made to have an effective possibility for high quality color space conversions by using appropriate profiles. The idea is based on a standardized european color definition, that was founded by the CIE at the beginning of the 1930th. The ICC-Standard defines the realization of this mathematical and technical process in a general and on all computer systems usable form.

The International Commission of Illumination (CIE) has the internet address:
http://www.cie.co.at
The International Color Consortium (ICC) has the internet address:
http://www.color.org

The ICC Color Management in Pjannto RIP® is implemented with the free programming library little cms. We thank the authors of little cms for the free licence. We will say clear, that „little“ stands not for limited, but for small and efficiently.

little cms (little color management system) has the internet address:
http://www.littlecms.com

The ICC Color Management is oriented on the colors, that an average human being can distinguish at a certain illumination. Because only the colors an average human being can distinguish are interesting for a color Management. Over this experimental defined general human eye color space, methods can be developed, how to convert a certain source color space into a certain target color space.

What are different color spaces?

Monitor displays, scanners, cameras etc. and not at last the eyes have the RGB color space type. The RGB color space type is based on the apperception of the intensities of three different wave lengths of light. Named as (orange) red, green and (purple) blue. The three wave lengths are appercepted independently of each other and mixed respectively added together to one color. This is called additiv color mixing by the pricipal of a flashlight. Black is the smalest intensity of all three color components and white is the highest of all three color components.

Knowingly it was not spoken about RGB color space, but about RGB color space type, because every single RGB color reading device or RGB color displaying device, like scanners or monitors, have their own individual wave length characteristics and with this their own RGB color space. And this individual RGB color space may change with the age of the device, too.

In opposition there is the CMY(K) color space type. It is invers respectively complementary to RGB. This color space type is based on colors, that are applied on a certain material. As an example, ink or offset print colors on paper. If the colors are illuminated the color layers will filter certain parts of the light wave lengths, by absorbing them, and reflects the remain. Because of the absorption it is named subtractive color mixing. All color layers can be applied relatively independent on to the material. Black will be the lowest reflection intensity and white the highest. Because our view is on the colors, you can see the inversity compared to RGB. Black is the highest intensity of all color components and white is the lowest, the color of the paper.
Theoretically it would be OK to apply the colors cyan, magenta and yellow (CMY) on to the white material to display a high distinguishable color amount. The praxis shows, that this is normally not possible, because the order of the color application influences the reflection characteristic and causes visual impurity effects. Additionally the used colors do not have the reflection characteritics, that are theoretically needed. Altogether that causes, that CMY mostly can not display good colors, if the colors are more dark like dark green, brown or black. Say, colors with a high part of gray. This is the reason why black (K) is printed additionally to CMY, to substitude a part of gray in CMY by an intensity of K. With additional K it gets possible to reproduce colors with a much better contrast. Especially black gets more dark and more color neutral. The over all color apply can be reduced, depending on the use of black in the gray generation and under color removal process of the CMYK mixing. That reduces the costs and causes a more stable color reproduction. And materials can be printed on, that can not absorb a great over all color apply.
That is why this color space type is called CMYK color space type in praxis. Also here was spoken knowingly about the CMYK color space type, instaed of color space, because every printer has its own CMYK color space, dependent on the printed material.

The explicit characteristical color spaces of the devices are described with ICC-Profiles.

The device independent general color space of the human eye can be coded in different ways. In principal it is the same. The ICC codes the color space of the human eye in CIEXYZ or in CIELab. We will talk in general about the Lab color space.

The ICC-Standard defines, that CMMs has to be used to convert colors. This programs are able to understand ICC-Profiles. Our CMM is the little cms. Color Management Systems

are often integrated in the system software. In Windows ICM is used and Apple had developed ColorSync for their MacOS.

For color conversion it can be used up to four different strategies, dependent on the characteristic of the color spaces. So called Rendering-Intents. At first different color spaces can have different circumferences. RGB color spaces usually have a greater circumferce of distinguishable colors as CMYK color spaces. The Lab color space has the greatest circumference of distinguishable colors. The different Rendering-Intents targets on the receipt of different characteristics of the source color space. How satisfying the result of conversion is, depends on the traget color space and on the intention the user has. The four Rendering-Intents are:

Perceptual (for digital print):

> Suitable for photos and less suitable for multicolored diagrams. The relative relationship of the colors to each other will be as good as possible. This may lead to substantial, absolute color changes when used with colorspaces, which strongly differ in their color extent.

Saturation (suitable for digital print):

> Less suitable for photos and rather for multicolored diagrams, whose pure, shine-multicolored, intensive colors will be better reproduced.

Relative colorimetric (recommended for digital print and suitable for digital proof):

> Recommended for high-quality digital print and for digital proof quality, where the medium (e.g. a certain paper) is not to be imitated, as far as the used printers and the medium permits this. All colors remain as absolute as possible, as far as they fit into the target color space. The white point of the source color space changes into the white point of the medium to be printed on. Thus with white no color is printed.

Absolute colorimetric (not suitable for digital print but for digital proof):

> Recommended for print in digital proof quality, whereby the medium (e.g. a certain paper) is to be imitated, as far as the used printers and the medium permits this. All colors remain as absolute as possible, as far as they fit into the target color space. It is tried to imitate the white point of the source color space on the medium to be printed on. Thus with white there may be color printed.

It depends on the profile, which strategies can be selected.

The conversion strategies were commented for the use of digital printing. For the conversion from RGB color space type to CMYK color space type, that is aviable in Pjannto RIP®, only the first three strategies are resonable.

If the user prints own RGB pictures, which are scanned by a scanner or a digital camera, or which are created in a certain working color space, the quality gets much better, if the corresponding ICC-Profile is selected in the ***Application Settings***-Dialog. Copy the needed ICC-Profiles into the „color“ folder in the „Pjannto RIP“ folder.

ICC-Profiles that are integrated into a picture or graphic are not supported yet.

Additional ICC-Profiles are aviable for free at:

Adobe:
http://www.adobe.com/support/downloads/detail.jsp?ftpID=1330
Microsoft:
http://www.microsoft.com/whdc/hwdev/tech/color/default.mspx
ECI: http://www.eci.org
SWOP: http://www.swop.org

3 Pjannto RIP® Engine

This background program processes the graphical calculations and makes it possible to create new and changing Print-Jobs and sending print data in the foreground program Pjannto RIP® Control, while still processing in the background. The here described program evaluates the graphic and generates the data for the printer output.
This program can be shown in the foreground by executing the ***View Engine***-Command of the ***File***-Menu in the Control Window of Pjannto RIP® Control. Is Pjannto RIP® Engine running, it will have an icon in the right site of the Tray-Bar.

In this program no settings can be made.

The *Pjannto RIP® Engine*-Window

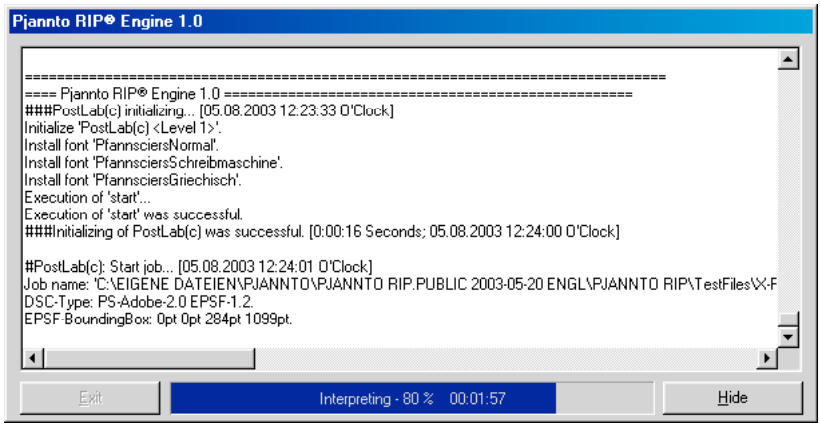

Fig. 73: The *Pjannto RIP® Engine*-Window while interpreting.

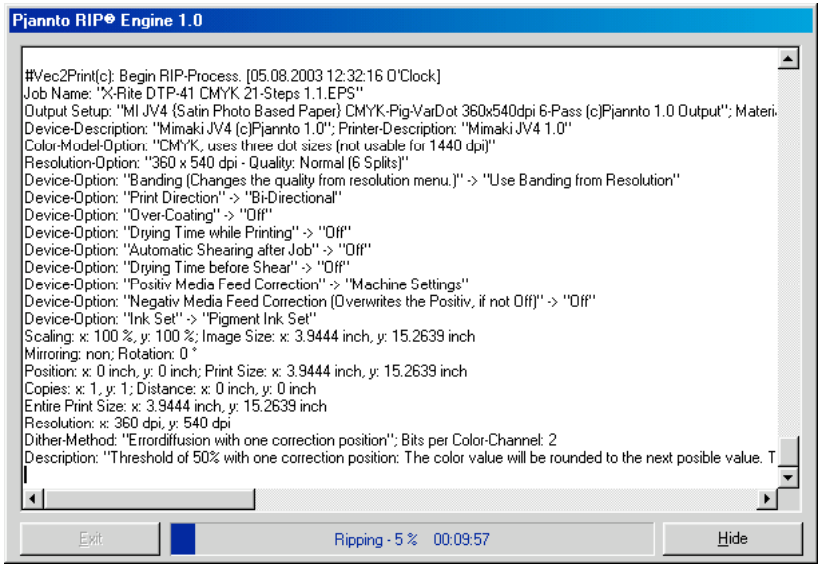

Fig. 74: The *Pjannto RIP® Engine*-Window while ripping.

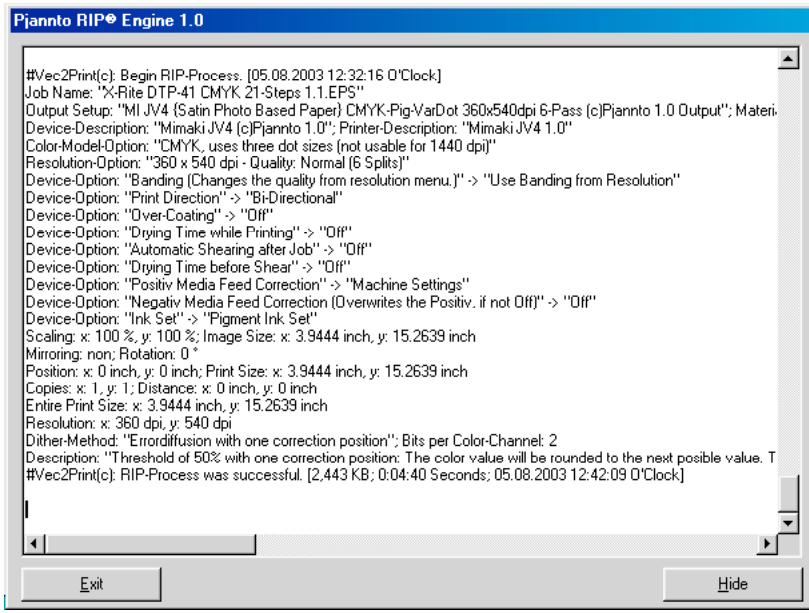

Fig. 75: The *Pjannto RIP® Engine*-Window, if no calcultaion is in process.

What is made with the Print-Jobs is reported in this window. The text can be selected and be pasted to the clipboard to store or send it.

The *Exit*-Button

This button will quit the program Pjannto RIP® Engine.

The *Process*-Bar

If Pjannto RIP® Engine processes calculations, this bar will display the progress of the process.

The *Hide*-Button

This button will bring Pjannto RIP® Engine to the background.

Word Explanation

RIP

Raster Image Processing. This is the conversion from graphic data to a point or pixel orientated format, that will be proper for the resolution of the printer.

Index

A

B

C

D

F

H

I

L

M

O

P

Q

R

S

T