

# Applications Specifications for Heidelberg MetaDimension AIT Interface



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This document describes the following topics related to the interface between Heidelberg's METADIMENSION RIP and KODAK APPROVAL XP/XP4/NX systems:

- Interface specifications,
- Theory of operation,
- What's new in MetaDimension 4.1 Build 11
- Standard sales and support considerations,
- Exceptions and cautionary notes, and
- Glossary.

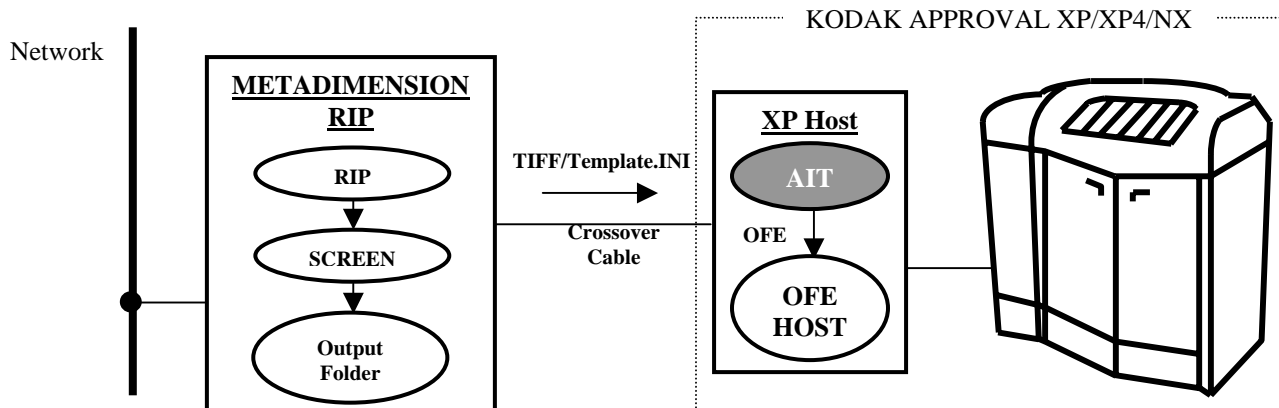


Figure 1. Interface Block Diagram

# Applications Specifications for Heidelberg MetaDimension AIT Interface



## ■ Interface Specifications

An overview of the interface specifications is listed in Table 1.

**Table 1. Specifications for METADIMENSION RIP interface to APPROVAL<sup>1</sup>**

<b>Digital Front-End Name and Maker</b>	METADIMENSION RIP, Heidelberg
<b>Required METADIMENSION Software</b>	Version 4.1 Build 11
<b>Supported APPROVAL Configurations</b>	KODAK APPROVAL XP, XP4, and NX, 2400 & 2540 dpi
<b>Interface Basis</b>	Via AIT (resides on APPROVAL HOST PC) using the TIFF Bitmap Input channel. Released with the AIT software version 2.5.
<b>OFE Certified</b>	Level 2
<b>Recipe Colors</b>	Simple Recipe implementation using AIT Recipe Tables
<b>Supported Donor Media</b>	<ul style="list-style-type: none"> <li>• All</li> </ul>
<b>Supported Halftone Screens</b>	<ul style="list-style-type: none"> <li>• IS (Heidelberg's Irrational Screening)</li> <li>• Diamond (Heidelberg's stochastic screening)</li> </ul>
<b>Interface Requirements</b>	<p>The interface requires the following:</p> <ul style="list-style-type: none"> <li>• KODAK APPROVAL XP/XP4/NX Standard Configuration (Harlequin RIP becomes optional)</li> <li>• AIT Software Version 2.5 to run on the XP Host Workstation</li> <li>• METADIMENSION RIP Server with software version 4.1 Build 11</li> </ul>

In regards to throughput, the throughput data for the standard APPROVAL XP/XP4/NX system applies:

- Baseline: 4 pph (16 pages per hour) for XP4, or ..... 15 minutes per 4-page proof
- Extra time for recipe when media usage is optimized<sup>2</sup>: ..... 2 minutes per recipe component
- Extra time for recipe without media optimization<sup>3</sup>: ..... 3 minutes per recipe component

<sup>1</sup> Please refer to the Glossary in Table 2 for precise definitions and detailed descriptions.

<sup>2</sup> When media usage is optimized, the donor sheet stays on the drum, the print-head is moved to home position, and a separate pass is made to expose a recipe color component.

<sup>3</sup> Without media optimization, a new donor sheet is used to expose a recipe color component. This requires unloading the current donor sheet, loading a new donor sheet plus exposure of the new donor sheet.



## ■ Theory of Operation

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As illustrated in Figure 1 the interfaces require a MetaDimension system. This system must be equipped with software version 4.1 Build 11 or later.

The interfaces also requires:

- A KODAK APPROVAL XP/XP4/NX (standard configuration minus Harlequin unless required) with minimum version 1.5R1 Host software, and
- AIT software version 2.5 that can reside on the XP Host.

Technical operations may be summarized as follows:

1. MetaDimension output .fbdi folder for proofing. The .fbdi folder includes all the TIFF files for the job. The TIFF files are compressed. AIT uses the JobStart.jdf and JobEnd.jmf to determine when the job is finished Ripping and how many separations are in the job. The .fbdi folders are sent to folders monitored by AIT software Hot Folder mechanism.
2. The template.txt file that the Operator creates contains the proofing parameters:
  - Densities required for each separation for proofing,
  - Contains the Densities and Screening parameters for Recipe colors,
  - Screening parameters for each separation to determine required laser numbers for proofing



AIT Input Folders must reside on the MetaDimension system. The MetaDimension RIP software doesn't allow the user to output to mapped network drive.

3. The AIT software Hot Folders are pre-configured to process the following:
  - Color mapping, if necessary,
  - Donor Laydown order.
4. The output of the AIT software is an OFE Job that is sent to the OFE Host (that resides on the XP Host) for proofing.



## ■ ■ **What's new in MetaDimension 4.1 Build 11**

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- AIT interface to APPROVAL Digital Proofing System.

## ■ ■ **Standard Sales and Support Considerations**

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There is a Memorandum of Understanding (MoU) in place in every region between Kodak Polychrome Graphics and Heidelberg that defines the sales and support responsibilities of each company. The basic highlights of these MoUs are as follows:

1. Orders for the AIT software is placed **locally** by Heidelberg with Kodak Polychrome Graphics.
2. The AIT software is delivered to the **local** Heidelberg office.
3. In parallel, local Heidelberg will place internal orders for a METADIMENSION RIP and/or required components.
4. Heidelberg will integrate and install the METADIMENSION RIP with required components. Please note that this includes the AIT software. The AIT software must be viewed as a software component for the METADIMENSION RIP. It is owned and supported by Heidelberg.
5. In parallel, a KODAK APPROVAL XP/XP4/NX may have to be installed. The Harlequin RIP is optional. Please note that with the OFE interface both the Harlequin RIP and the METADIMENSION RIP can co-exist and be connected to APPROVAL XP/XP4/NX at the same time.
6. Kodak Polychrome Graphics and Heidelberg Application Specialists will cooperate to get a color match.
7. In case of trouble, the customer will decide which company to call. There is a troubleshooting procedure in place to help isolate the problem to one or the other side of the interface. Heidelberg is responsible to address problems with the METADIMENSION RIP including the AIT software. Please note that even though the AIT software is a Kodak product and it is sold to Heidelberg, in the eyes of the customer, the AIT software must be seen as a METADIMENSION system component. Heidelberg service and support personnel are trained to provide support for the AIT software.

Kodak Polychrome Graphics is responsible for any problems with the APPROVAL system.

Any problems that cannot be immediately isolated to one or the other side (e.g. network connectivity problems or image quality problems) will require both sides to work together to find a solution.



## ■ ■ Exceptions and Cautionary Notes

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Known concerns are as follows:

1. Resolution Issue: Similar to the rotation issue, if the proofing system has a different resolution (i.e. 2400 dpi) than the resolution of an image-setter (e.g. Signasetter at 2540 dpi), MetaDimension List pages must either be re-generated at the different resolution or re-resed and re-scaled for the different resolution. Re-res and re-scale is also a time consuming process.

The recommendation is to pick the best resolution for the workflow. This is seen as an advantage compared to SPECTRUM because APPROVAL XP/XP4/NX presents a choice of resolutions that SPECTRUM does not.

## ■ Glossary

A glossary of terms and expressions is included in Table 2 below.

**Table 2. Glossary and details (topics are alphabetically organized)**

**AIT** Acronym for Approval Interface Toolkit. The AIT software is an OEM product developed by Eastman Kodak Company and distributed by Kodak Polychrome Graphics. The basic AIT software is a flexible tool with two types of inputs and two types of output connectivity. As illustrated in the following diagram, the main features of the AIT software are as follows:

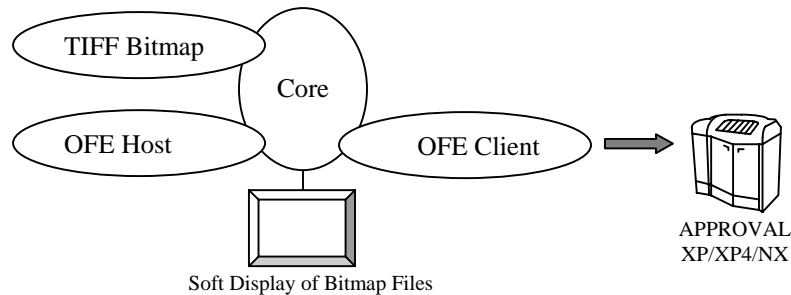
- **TIFF Bitmap Input:** The AIT software accepts TIFF Bitmap files. This is an important feature of the AIT software because many RIP system manufacturers can readily generate TIFF Bitmap files, and for those who are reluctant to develop an OFE interface, this input channel becomes a very useful way to interface with APPROVAL.

TIFF Bitmap inputs come through an input Hot Folder, which may be configured for automated processing for a specific output device.

TIFF Bitmap inputs consist of one TIFF Bitmap file for each separation. Proofing parameters associated with the job may be part of the input Hot Folder configuration or it may be contained in a separate text file called an “.ini” file.

TIFF Bitmap inputs may be directed to a APPROVAL XP/XP4/NX.

- **OFE Client Output:** The AIT software can act as the OFE Client for TIFF Bitmap jobs received from a non-OFE-compatible digital front-end and intended for proofing on an APPROVAL XP/XP4/NX.
- **Soft Display of Bitmap Files:** Bitmap data received through either input channel may be viewed on the monitor with the AIT software. This display will show the real dot structure for any combination of colors within a job.



## Applications Specifications for Heidelberg MetaDimension AIT Interface

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**OFE** Acronym for Open Front-End. OFE is the standard interface specification for KODAK APPROVAL proofing systems. Its features are:

- OFE defines a two-way interface between a digital front-end and an APPROVAL system. With a two-way interface, a digital front-end can inquire the APPROVAL system for media and availability status as well as supplying the APPROVAL system with proofing jobs.
- OFE defines screened bitmap data as proofing data for proofing. This allows the digital front-end to RIP and screen a proofing job per its own standards, thus avoids any file conversions and maintains data integrity (in terms of screening and halftone dot structures).
- OFE is based on a standard physical and protocol connectivity. OFE Jobs are communicated over standard network using the standard Socket connections. This will allow any system with any processor and operating system to connect easily to APPROVA systems.
- OFE is based on a Host-Client architecture, where the digital front-end acts as the OFE Client and the APPROVAL system acts as the OFE Host. This allows multiple OFE Clients to have a physical connection with a single OFE Host at the same time. However, only one OFE Client can have active communications with the OFE Host at any given time. Furthermore, the OFE Host maintains its own queue of OFE jobs, and this allows the OFE Client to disconnect from the OFE Host after an OFE job is fully communicated (i.e. the OFE Client does not have to wait for the proofing job to finish before it can disconnect).

**TIFF Bitmap** This expression is used for halftone-screened data in the standard TIFF format. TIFF Bitmap is the lowest denominator in terms of a file format common to many RIP systems.