



Steinhart Medizinsysteme GmbH

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Hipax Robot Manager 3.4

User's Instructions





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1. Properties

1.1 Indications for Use

Users of the Hipax Robot Manager software are typically radiologists, assistant medical technicians, medical imaging technicians, and others. Configuration can be carried out by network administrators or technical experts, but also by technically trained medical staff.

1.2 Purpose

The Hipax Robot Manager can be used to write patient and backup media automatically using a CD/DVD/BD robot. The label is also printed automatically by printer integrated into the robot.

The Hipax Robot Manager supports robots of the manufacturers Epson, Primera and Rimage.

The Hipax Robot Manager receives the images from the modalities or workstations by TCP/IP DICOM.

The stack of empty media has to be put into one compartment of the robot. The robot takes one media after the other from the stack, writes the data, prints the labels and puts the written media into another compartment.

1.3 Functions

- Web GUI to operate the software from any PC within the network
- DICOM-Storage for image reception
- Creating burning jobs
- Images of one patient (patient medium)
- Images of several patients (collection medium)
- DICOMDIR file
- With or without Hipax viewer
- Patient CD encryption available
- Creating individual labels
- Connecting robots of the manufacturers Epson, Primera or Rimage
- CDs or DVDs
- Fulfills the DICOM standard
- Fulfills the demands of the DLR (German Radiology Society) for patient CDs
- Option: backup media
- Option: blu-ray
- Option: client specific individual configuration



1.4 Modules

The following modules are available for the Hipax Robot Manager:

- Base module (see *chapter 1.4.1*)
- Backup module (see *chapter 1.4.2*)
- BD module (see *chapter 1.4.3*)
- Multi Client module (see *chapter 1.4.4*)

1.4.1 Base Module

Using the Hipax Robot Manager Base Module, patient- or collection CDs or DVDs can be created containing the data of one or several patients.

A Hipax viewer is added to the medium. It provides different image processing tools, for example, zoom, pan, mirror, rotation, window leveling, measurements, paper print. A special PC equipment is not required.

Furthermore, Hipax patient- or collection media contain a DICOMDIR file and fulfill the DICOM standard for patient CDs. As a result, the images can be loaded and processed by any DICOM workstation.

Using a Hipax workstation (DW or WS 4) as sending station, even documents as diagnostic reports or lab reports can be added to the media. Hipax workstations generally supports the following file formats: Text (doc, txt, pdf, dcm SR), Film (avi).

Hipax patient- or collection media can be encrypted (AES, 256 bit) to prevent data abuse. To open an encrypted Hipax medium, a password needs to be entered. Passwords are individually generated for each single medium and can be printed on a label printer. Passwords are stored by the Hipax Robot Manager in an own database.

1.4.2 Backup Module

Activating the "Backup" module enables the Hipax Robot Manager to create backup media containing the images of several patients. The Robot Manager accumulates images until the selected media has been filled, and starts then the burning process.

Hipax backup media include a DICOMDIR file and fulfill the DICOM standard. As a result, the images can be loaded from the media by any DICOM capable workstation.

Please note that only the image data and corresponding DICOM headers are stored on the media, not the whole database. To make an automatic backup of the hard disk, an own backup software has to be installed.

1.4.3 BD Module

Activating the "BD" module enables the Hipax Robot Manager also to burn blu-ray disks, in the case that these media are supported by the used robot.



1.4.4 Multi Client Module

Activating the "Multi Client" module enables the Hipax Robot Manager to store individual settings for different users. Several clients can use the Hipax Robot Manager at the same time with their own, individual settings.

1.4.5 DICOM Query/Retrieve Module

The DICOM Query/Retrieve module of the Hipax Robot Manager can be used to query any DICOM station for DICOM files to be burned on a patient or collection media automatically.

The DICOM Query/Retrieve module is an own application to be started, licensed and configured separately (see *chapter 11*).



2. System Requirements

2.1 Hardware

- Intel Core 2 Duo from 2×2,2 GHz or comparable AMD processor
- Minimum 2 GB RAM
- S-ATA II hard disk from 250 GB capacity
- Standard graphics card
- Color monitor, resolution from 1280×1024 pixels
- ≥ 100 Mbit network, network card
- CD drive to install the software
- USB 2.0 plug for the dongle (software licensing)
- Robot (Epson PP-100/-50, Primera Disc Publisher, Rimage robot)
- For Epson: USB 2.0 plug or network connection
- For Primera: USB 2.0 plug
- For Rimage: USB 2.0 plug or FireWire (IEEE 1394)
- High quality CDs, DVDs or BDs with printable surface depending on the selected robot
- Label printer to print passwords for encrypted patient CDs. The following label printers have been tested: Primera LX200, Dymo Label Writer 400, Avery PLP 9100

2.2 Software

- Windows XP (SP 3), Vista, Windows 7
- Microsoft® SQL Server® Compact 4.0 (free download, see *chapter 5.2.2*)
- Microsoft .NET Framework 4.0 Extended (free download from www.microsoft.com)
- For Epson: TDBridge Software, Total Disc Maker (delivered with the device)
- For Primera: Primera PT-Burn Server Software (SDK 3, delivered with the device)
- For Rimage: OfficeNet Suite 8 Software (delivered with the device)

2.3 Restrictions

We recommend not to use the PC, where the Hipax Robot Manager has been installed, for other applications (e.g., workstations, server) at the same time.

No other burning software must be installed besides the robot driver software.



2.4 Incompatibilities

The robots supported are not compatible to PCs using ATI's Southbridge XP (SB) 460 or previous version. Using such a PC, the USB-connection must be realized via a USB-PCI card.

Hipax Robot Manager from version 3 is incompatible with the previous versions of the Hipax Robot Manager.

Hipax Robot Manager version 3 is incompatible with Primera Software versions previous to 3.0.4 and with Rimage OfficeNet Suite software previous to 8.



3. Warnings and Cautions

The Hipax Robot Manager provides a Web GUI (Client User Interface), where the current status of the software and of the burning jobs can be checked from any computer within the network.

Take notice of possible security guides when adjusting firewalls on the corresponding computer.

The firewall must share the communication port (default 3333) of the PC, where the Hipax Robot Manager has been installed. The port, where the Hipax Robot Manager service listens for associations can be configured.

4. Concept

4.1 Explanation of Terms

- **Order:** The reception of a defined volume of DICOM files belonging together to be burned on one or more media. An order can consist of several "Jobs" for several media, or of only one "Job" for one medium. See also the explanation of the term "Job".
- **Job:** Robot hardware drivers often use the word "Job". This is the reason, why the same term is also used for the Hipax Robot Manager. It corresponds to the processing of exactly one medium on the robot hardware, independent of the context to other data of another medium. Example: An order does not fit to one medium and needs to be splitted to two media: 1 order, 2 jobs).
- **Medium:** Physical data carrier (CD, DVD, BD) to be handed out to the patient or to the referring physician. The term is often used as a synonym for the data located on the medium.
- **Medium type:** Distinction of patient medium, collection medium and backup medium.
- **Medium size:** Distinction of CD, DVD, BD in different sizes.

4.2 Receiving DICOM Data and Relating them to an Order

4.2.1 Sending Stations: DICOM Application Entities

Sending stations can be: DICOM modalities, workstation, PACS server.



If a study consists of the images or series of several modalities, the order has to be put together on a DICOM workstation and then send to the Hipax Robot Manager.

Each sending station in a network can be identified by its own Application Entity Title (AE title). For this reason, sending stations are here called DICOM Application Entities or **DICOM AEs**.

The Hipax Robot Manager accepts DICOM files (images, DICOM pdf or DICOM SR) from any DICOM AE within the same network.

4.2.2 Ports

The Hipax Robot Manager listens on up to three different ports for incoming DICOM files. The ports define the medium type to be created:

- Patient medium (data of one patient): default port 222
- Collection medium (data of several patients): default port 333
- Backup medium (files of several patients are collected, until the data volume of the selected media size has been arrived): default port 444

Port numbers can be configured.

4.2.3 Receiving Data

An order remains in the "collecting" status until the rule to close an order is fulfilled. The rule depends on the medium type:

- Timeout for patient media and collection media (see *chapter 4.2.3.1*)
- Fill level of the medium size selected for backup media (see *chapter 4.2.3.2*)

If possible, images of a study or of a series are not separated for patient media or collection media. For backup media, images of a series are not separated.

4.2.3.1 Timeout

Timeout means the period of time, while data for one order can be received. The timeout can be configured, even individually for different DICOM AEs.

The timeout starts again after each single DICOM file that has been received. An order is closed as soon as no further DICOM file has been received within the defined timeout. As a result, the Hipax Robot Manager does not accept further files for the current order, but relates new incoming files to a new order.

The **patient media** of several patients can be created at the same time. The files are received from the same port, but are distinguished by the patient data in the DICOM headers (name and/or ID). The timeout runs independent for each single order.

Several **collection media** cannot be created at the same time, but only one after the other. The orders are not distinguished by the patient data, because the data of several patients are to be burned on the same medium. The timeout runs for all data received from the port for collection media.

A timeout also runs for each series received for a **backup medium**. A series is related to the backup medium as soon as no further DICOM file has been received within the defined timeout.

4.2.3.2 Fill Level

The complete **backup medium** is closed as soon as the pre-defined fill level of the selected medium has been arrived (e.g., 80%).

4.2.3.3 Finish Data Collection

The data collection for an offer is finished by timeout or fill level. The Hipax Robot Manager does not accept further files for this order, even in the case that the new incoming images can be identified by study ID, patient ID or patient name as belonging to the current order.

New incoming files are related to a new order.

4.2.4 Clients

Using the Hipax Robot Manager without the Multi Client module, only one client is defined, which is automatically the "default client".

Using the Multi Client module, individual settings can be stored for different clients. Client can be a person, e.g., a physician, or a group of persons, e.g., all physicians of a group practice. One client must be defined as "default client". This can also be an additional client, e.g., representing a full medical practice.

The Hipax Robot Manager is using three steps, to find out to which client incoming files are to be related:

1. The Hipax Robot Manager checks, if the DICOM AE sending the images is explicitly defined for one particular client. In this case, all data sent from this DICOM AE are related to the defined client.
2. If the DICOM AE sending the images is related to several clients or if it is not related to any client, the Hipax Robot Manager reads the tag "Referring Physician" (0008,0090) in the DICOM header of the incoming files. If the value has been configured for a particular client, the Robot Manager relates the data to this client.
3. If the DICOM AE is related to several or no clients, and if no client has been defined for the value of the "Referring Physician" DICOM tag of the incoming files, the Hipax Robot Manager relates the data to the client defined as "default client".

The Hipax Robot Manager uses all settings defined for the current client, e.g., the medium size, the priority, or the label file.

The Hipax Robot Manager checks, if an order in the "collecting" status is already existing for the current client. In this case, the incoming files are related to this order. Otherwise, a new order is created.

4.3 Order Processing

4.3.1 Medium Size

The Hipax Robot Manager proves the medium size defined for the current order: CD, DVD, BD.

In the case that the data volume of a patient medium or collection medium extends the capacity of the defined medium, the Hipax Robot Manager provides the possibility to choose another medium size automatically. If another medium size is not available or also not sufficient, the order is separated in different jobs, which means, it is burned to several media.

Images of a series or study are not separated, if possible.



4.3.2 Encryption

The media will now be encrypted by AES256, if the Hipax Robot Manager has been configured correspondingly. A zip folder of the encrypted data is created. The index of the files is visible in the zip folder, but the data are encrypted.

4.3.3 Label

The previously created label file is related to the medium.

4.4 Passing the Order to the Robot

The order is now in the "waiting" status. The Hipax Robot Manager passes the order to the robot as soon as it is free and able to burn the job.

5. Installation

5.1 Hardware Installation

1. Install the robot hardware following the user's instructions of the robot manufacturer.
2. Connect the robot to the PC following the user's instructions of the robot manufacturer.
3. Connect the PC to the local network.

5.2 Software Installation

ATTENTION The installation steps must be carried out in the **given order**:

5.2.1 Robot Software

1. Insert the installation CD of the robot software into the CD drive of the PC.
2. Install the robot software from the installation CD following the instructions of the robot manufacturer.
3. Start the robot software following the instructions of the robot manufacturer.
4. Burn a test medium using the robot software.
Only, if the test medium has been burned successfully, it is ensured that the robot has been successfully installed and configured and connected to the PC.

5.2.2 Microsoft® SQL Server® Compact 4.0

5.2.2.1 System Requirements

The free software Microsoft® SQL Server® Compact 4.0 must be installed on the Hipax Robot Manager PC.

The system requirements for Microsoft® SQL Server® Compact 4.0 is Microsoft .NET Framework 4.0 Extended:

ATTENTION The .NET Framework 4.0 Extended must be installed first, before installing the SQL Server Compact 4.0.

5.2.2.2 .NET-Update Download and Installation

An update for .NET must be carried out for each single PC to be enabled to use the web interface.

The update must also be carried out for the PC, where the Hipax Robot Manager has been installed.

1. Start an internet browser.
2. Enter the following links into the address line of the browser:
[http://www.microsoft.com/downloads/de-
de/details.aspx?FamilyID=0a391abd-25c1-4fc0-919f-b21f31ab88b7](http://www.microsoft.com/downloads/details.aspx?FamilyID=0a391abd-25c1-4fc0-919f-b21f31ab88b7)

A Microsoft® download page opens.

3. Click on the "Download" button of the following file:
dotNetFx40_Full_x86_x64.exe for .NET Framework 4 extended

ATTENTION

Do not use the client version!

The selected file is downloaded and stored in the local folder configured for downloads.

4. Start the Windows Explorer.
5. Open the download folder.
6. Double mouse click on the file *dotNetFx40_Full_x86_x64.exe*.
The Microsoft® installation wizard for .NET Framework 4 extended opens.
7. Carry out the installation of .NET Framework 4 extended following the instructions of the wizard.

5.2.2.3 SQL Server Download

1. Start an internet browser.
2. Enter the following links into the address line of the browser:
[http://www.microsoft.com/downloads/de-
de/details.aspx?FamilyID=033cfb76-5382-44fb-bc7e-b3c8174832e2](http://www.microsoft.com/downloads/details.aspx?FamilyID=033cfb76-5382-44fb-bc7e-b3c8174832e2)

The Microsoft Download Center opens.

3. Click on the "Download" button of the suitable file:
 - SSCERuntime_x64-DEU.exe für 64 Bit Windows
 - SSCERuntime_x86-DEU.exe für 32 Bit Windows



The selected file is downloaded and stored in the local folder configured for downloads.

5.2.2.4 SQL Server Installation

1. Start the Windows Explorer
2. Open the folder configured for downloads.
3. Double mouse click on the downloaded program file Microsoft® SQL Server® Compact 4.0.
The installation program of the SQL server is started with the welcome dialog.
4. Click on the "**Next**" button.
The Microsoft license agreement opens.

5. Click on the "**I accept the license terms.**" radio button.
6. Click on the "**Next**" button.
The dialog to start the installation opens.
7. Click on the "**Install**" button.
The Microsoft® SQL Server® Compact 4.0 is installed in the correct directory.
The installation process is shown by a track bar.
A new dialog opens as soon as the installation process has been finished.
8. Click on the "**Finish**"-Schalter anklicken.
The Microsoft® installation dialog is closed.
The Microsoft® SQL Server® Compact 4.0 is installed.

5.2.3 Hipax Robot Manager

1. Insert the Hipax installation CD into the CD drive of the PC.
2. Start the Windows Explorer.
3. Open the Hipax installation CD using the Windows Explorer.
4. Use a double mouse click on the file *Setup.exe*.
The Hipax installation program is started.
5. Follow the instructions of the Hipax installation program.
6. Insert the Hipax USB dongle into a USB 2.0 plug of the PC.

5.2.4 Web Interface (Client User Interface)

The Hipax Robot Manager provides a Client User Interface (here called "web interface") to check for the current status of the Hipax Robot Manager and of the orders currently processed from any computer within the network.

Configuration of the Hipax Robot Manager can be changed using the web interface (see *chapter 10*).

System requirements for the web interface are the same as given for the Hipax Robot Manager (see *chapter 2*).

ATTENTION

Take notice of possible security guides when adjusting firewalls on the corresponding computer. The firewall must share the communication port (default 3333) of the PC, where the Hipax Robot Manager has been installed. The port, where the Hipax Robot Manager service listens for associations can be configured.

5.2.4.1 Install Files

The steps given here must be carried out for each single PC to be enabled to use the web interface, but not for the PC, where the Hipax Robot Manager has been installed.

1. Start the Windows Explorer.



2. Create a new folder on the PC to be enabled to use the web interface:
Name, e.g., *C:\HipaxRobotManagerWebGUI*.
3. Open the Hipax Robot Manager installation directory on the PC, where the Hipax Robot Manager has been installed:
Default configuration: *C:\Program files\Steinhart\Hipax Robot Manager 3*.
4. Copy the following files from the Hipax Robot Manager installation directory to the newly created folder on the PC, where the web interface shall be used:
 - *log4net.dll*
 - *Steinhart.Library.dll*
 - *Steinhart.RobotDevice.dll*
 - *Steinhart.RobotManager.WebGUI.exe*
 - *Steinhart.RobotManager.WebGUI.exe.config*
 - *Steinhart.RobotManager.WebGUI.Log.config*
 - *System.Windows.Interactivity.dll*
 - *WPFLocalizeExtension.dll*
5. Copy the following subfolders including their contents from the Hipax Robot Manager installation directory to the newly created folder on the PC, where the web interface shall be used
 - *\de*
 - *\en*

5.2.4.2 Configure Communication Parameters

The steps given here must be carried out for each single PC to be enabled to use the web interface, but not for the PC, where the Hipax Robot Manager has been installed.

1. Start the Windows Explorer.
2. Open the directory, where the files for the web interface have been copied (see *chapter 5.2.4.1*, point 2).
3. Use a right mouse click on the file:
Steinhart.RobotManager.WebGUI.exe.config.
A Windows context menu opens.
4. Click on the "Open with" menu item.
A Windows context submenu opens.
5. Click on "Choose program".
The "Open with" dialog opens.
6. Select the "Editor" program.
7. Click on the "OK" button.
A text file opens.
The text contains the following line:

<value>http://127.0.0.1:3333/RobotManager/</value>

with an IP address (127.0.0.1 for local host) and a port number (default: 3333).

8. Enter the IP address of the PC, where the Hipax Robot Manager has been installed:

Example: <value>http://192.168.10.10:3333/RobotManager/</value>

9. Enter the number of the communication port, where the Hipax Robot Manager Service listens:

Default: <value>http://192.168.10.10:3333/RobotManager/</value>

5.2.5 Settings at the Sending Stations (DICOM AEs)

To enable DICOM Send to the Hipax Robot Manager the following data need to be entered at the DICOM AEs (modalities, workstations):

- **AE title:** DICOM identification name of the Hipax Robot Manager in the network.
- **Host:** TCP/IP address of the Hipax Robot Manager
- **Port** of the Hipax Robot Manager. Default settings:
 - 222 for patient media (patient CDs)
 - 333 for collection media (multi patient CDs)
 - 444 for backup media

ATTENTION

Modality settings must only be changed by technical experts of the corresponding modality manufacturer.

5.2.6 DICOM Query/Retrieve Module

The DICOM Query/Retrieve module is an own application, which is installed automatically, together with the Robot Manager.

6. Program Start

6.1 Service or Application

The Hipax Robot Manager is a client-server application. On the PC, where the robot hardware is connected, the Hipax Robot Manager is running as service.

The Hipax Robot Manager can also be installed as application. In this case the execution of the program depends on the Windows user login.



The Rimage version of the Hipax Robot Manager need not to be installed on the same PC, where the robot is connected, but can also be installed on another PC in the network.

6.2 Auto Boot

Using the Hipax Robot Manager as service, it does not depend on the Windows user login. The service is started automatically by starting the operating system.

Using the Hipax Robot Manager as application, the program can be added to the auto boot group of the corresponding user.

6.3 Manual Start of the Service

The manual start of the service must be configured in the Windows service administration.

Instructions for the manual service start or termination for Windows XP:

1. Carry out the Windows function:
"Start" → "System control" → "Administration" → "Services" → "Hipax Robot Manager"
2. Select "Start Service " or "Quit Service".
or
3. Use a right mouse click on "Hipax Robot Manager".
A dialog opens.
4. Set "Start type" to "Manual".

6.4 Web Interface (Client User Interface)

6.4.1 PC, Where the Robot Manager is Installed

- ▶ Carry out the Windows start function on the PC, where the Hipax Robot Manager service or application has been installed:

"Start" → "Program files" → "Steinhart" → "Hipax Robot Manager 3"
→ "Hipax Robot Manager 3"

The Hipax Robot Managers web interface opens.

The web interface is also available in the case the Hipax Robot Manager is used as application (see *chapter 6.1*).

6.4.2 Other PCs in the Network

The Hipax Robot Manager provides a Client User Interface (here called "web interface") to check for the current status of the Hipax Robot Manager and of the orders currently processed from any computer within the network.

Use the following steps to start the web interface on a PC, where the Hipax Robot Manager has not been installed:

1. Start the Windows Explorer.
2. Open the folder on the PC, where the installation files for the web interface have been copied (see *chapter 5.2.4.1*):

Example: *C:\HipaxRobotManagerWebGUI*.

3. Start the web interface application:

Steinhart.RobotManager.WebGUI.exe.

The Hipax Robot Managers web interface opens.

6.5 Start of the DICOM Query/Retrieve Module

The DICOM Query/Retrieve module of the Hipax Robot Manager is an own application to be started using the Windows Explorer (see *chapter 11.3*).

7. Software Licensing

7.1 General Licensing of the Robot Manager

The Hipax Robot Manager is licensed by the dongle and by a module key to be entered on the user interface.

The module key is part of the Hipax Robot Manager installation package.



Without entering a valid module key the software is running in a demo mode.

The demo mode is shown by the writing "Demo" in the header of the program.



The writing disappears as soon as the full version is licensed by a module key.

The module key can be entered on the configuration page of the Robot Manager web interface:

1. Click on the wrench icon:

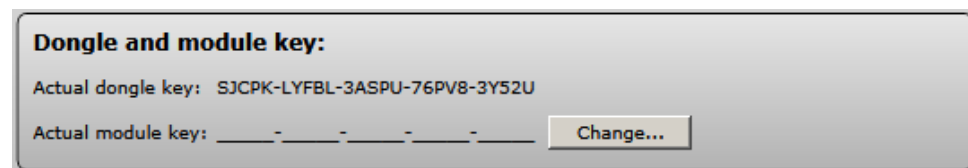


A password request opens.

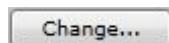
2. Click on the "OK" button without entering a password.

The configuration page opens.

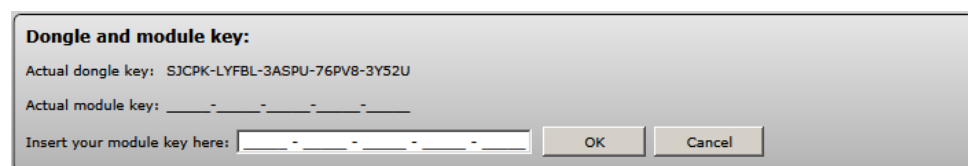
The "**Dongle and module key**" field is located in the bottom part of the page. The dongle key is given here.



3. Click on the "**Change**" button.



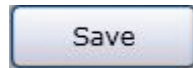
The "Insert your module key here" edit field becomes visible.



4. Enter the module key.
5. Click on the "OK" button.

The module key appears in the "Dongle and module key" field.

6. Click on the "**Save**" button.



The module key is stored and conveyed to the server.

The current license status including all modules enabled is given on the "Info" page (see *chapter 9.5*).

7.2 Licensing of the DICOM Query/Retrieve Module

The DICOM Query/Retrieve module of the Hipax Robot Manager is an own application to be licensed separately (see *chapter 11.3*).

8. Language Settings

8.1 Robot Manager Language Settings

The language of the user interface can be changed from English to German:

1. Click on the wrench icon:



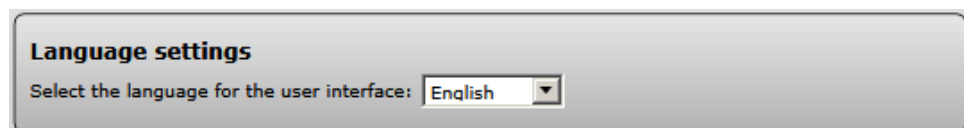
A password request opens.

2. Click on the **"OK"** button without entering a password.

The configuration page opens.

The "Language settings" field is located in the bottom part of the page.

The default language setting is "English".



3. Open the **"Select the language for the user interface"** drop-down list, if you want to change the language settings.
4. Select the desired language:
"English" or "Deutsch".
Selecting "Deutsch" the language of the user interface changes to German immediately.
5. Click on the **"Speichern"** or **"Save"** button.



The new language setting is stored and given to the server.

8.2 DICOM Query/Retrieve Language Settings

The DICOM Query/Retrieve module is an own application to be started, licensed and configured separately (see *chapter 11*).

The language of the user interface can be changed from English to German (see *chapter 11.4.2*).

8.3 Label Editor Language Settings

The Label Editor is an own application.

Beim Label Editor handelt es sich um eine eigene Applikation.

The language of the user interface can be changed from English to German (see *chapter 11.4.2*).

9. Navigation of the Web Interface

The web interface of the Hipax Robot Managers consists of four main pages:



- Order list (see *chapter 9.1*)
- Configuration page (see *chapter 10.*)
- Password list (see *chapter 9.3*)
- Log list (see *chapter 9.4*)

9.1 Order List Page

The order list shows the status of all current orders, all open connections, and of the selected robot..

9.1.1 Open the Order List Page

Starting the web interface opens the order list page automatically.

From another page of the web interface, the order list can be opened using the house icon:

- Click on the house icon:



The order list page opens.



The order list page is divided into three areas:

- "Order List": Shows all orders (see *chapter 9.1.2.1*)

- "DICOM Receiver": Contains information about open associations (see *chapter 9.1.2.2*)
- "Device Status": Contains information about the situation of the robot hardware (see *chapter 9.1.2.3*)

9.1.2 Areas of the Order List Page

9.1.2.1 Order List

The "Order List" contains all orders currently active or already processed.

The list is divided into three different views:

- "Currently Active" contains all active orders that have not yet been finished or cancelled.
- "Queue" contains all orders ready to be given to the robot or already processed by the robot.
- "History" contains brief information about all orders that have successfully been finished or cancelled.

9.1.2.2 DICOM Receiver

The "DICOM Receiver" area shows the size of all data that have been sent ("Incoming Bytes") and data that have already been received ("Outgoing Bytes").

Furthermore, all open network connection to DICOM AEs (sending stations) are given.

9.1.2.3 Device Status

The "Device Status" area shows the situation of the robot hardware.

Possible hardware errors are given stating the reasons.

9.2 Configuration Page

All settings of the Hipax Robot Manager can be changed on the "Configuration" page.

- ▶ Click on the wrench icon:



See *chapter 10*.

9.3 Password List Page

The "Password list" contains the passwords of all encrypted media already created.

- Click on the padlock icon:



The password list page opens.

Passwords can be searched in the list.

Passwords can be printed:

1. Use a right mouse click on the line with the password to be printed.
A context menu opens.

2. Click on the "Print" menu item.

The selected password is printed.

ATTENTION

The configured label printer must be connected to the local PC.

9.4 Log List

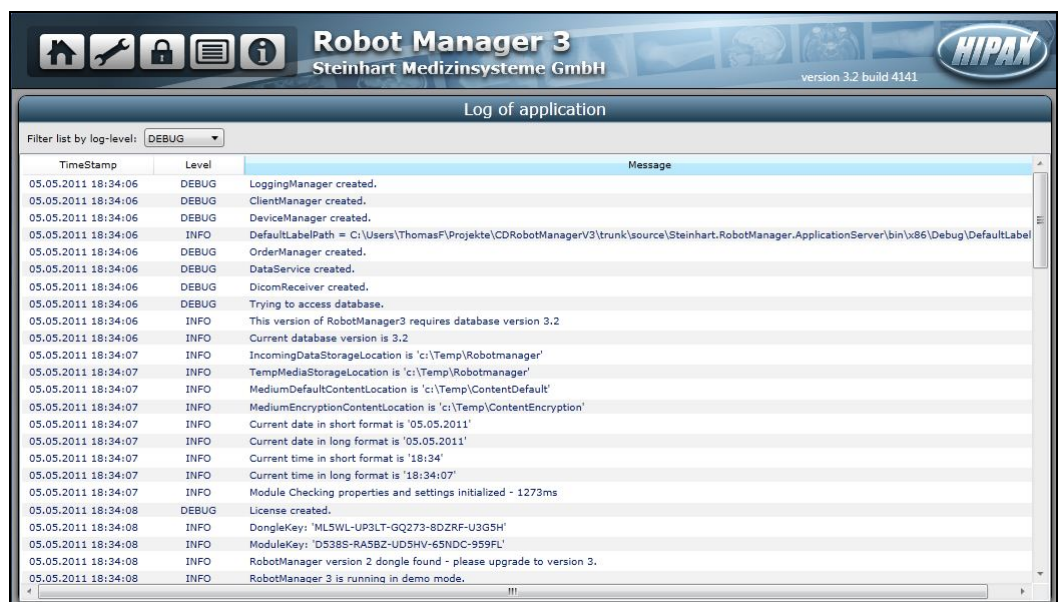
The log list documents all operations of the current Hipax Robot Manager session since the last start of the program or service.

9.4.1 Open the Log List Page

- Click on the list icon:



The "Application – Log" page opens.



9.4.2 Filter Logs

The logs of a session can be filtered by log level:

1. Open the "**Filter list by log level**" drop-down list.

The drop-down list contains four different log levels:

- "Debug"
- "Info"
- "Warning"
- "Error"

2. Click on the desired log level.

The log list is filtered correspondingly: The log messages of the selected log level is given, but also all messages of higher log levels.

"Debug" is the lowest log level. Selecting this log level, all messages are given in the log list.

"Error" is the highest log level. Selecting this log level, only error messages are given in the log list.

9.4.3 Show Logs of Former Sessions

Log messages of former sessions are stored in files. To look for log messages of former sessions use the following steps:

1. Start the Windows Explorer.
2. Open the installation directory of the Hipax Robot Manager (default: *C:\Program files\Steinhart\Hipax Robot Manager*).

Here the file *Steinhart.RobotManager.Server.log* is located.

The log file is portioned in packages of 1 MB each. Older log files get the file extension *.log.n* (where "n" is a whole number).

9.5 Info Page

The "Info" page contains information about the license status of the current Robot Manager installation and contact data of the manufacturer for support.

9.5.1 Open the Info Page

- Click on the "i" icon.



The "Info" page opens.


Copyright and contact information:

Copyright © 2010 - 2011. All rights reserved. Made in Germany by:

Steinhart Medizinsysteme GmbH
Grubstraße 6-8
D-79279 Vörsstetten
Germany

Contact us! We will be glad to hear your feedback.

by eMail: support@hipax.de
by phone: +49 (0) 7666 - 900 70
by fax: +49 (0) 7666 - 900 711

 Online support

License status:

Actual dongle key: SJCPK-LYFBL-3ASPU-76PV8-3Y52U
Actual module key: GBCAD-SJ5DB-HFX9E-PGLK5-8FT85

▼ Get detailed information about module licensing here:

Warning:

This computer program is protected by copyright law and international treaties. Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law.

9.5.2 Detailed Information about the License Status

- ▶ Click on the "**Get detailed information about module licensing here**" button.

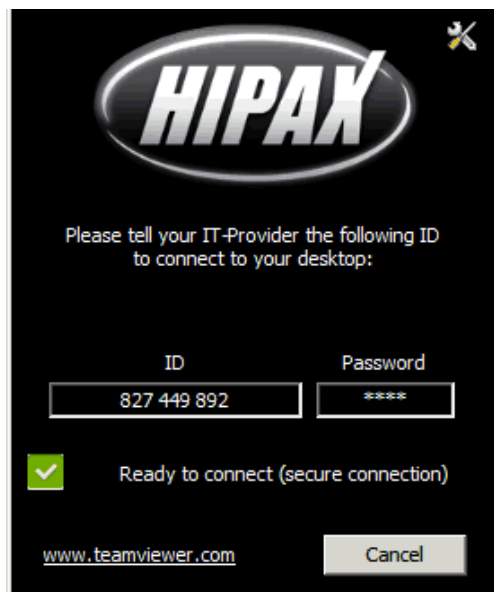
An additional field opens. It shows the licensed modules and the license status of the Robot Manager: demo version or full version.

9.5.3 Support

The contact data of the manufacturer are given on the "Info" to be used for support. Support can be made by phone or using Teamviewer for remote access:

1. Click on the "**Online support**" button in the case support shall be given by remote access.

The "Hipax online support" window opens:



The image shows a black window titled "HIPAX" with a logo at the top. Below the logo, it says "Please tell your IT-Provider the following ID to connect to your desktop:". There are two input fields: "ID" with the value "827 449 892" and "Password" with the value "****". Below these fields, there is a green checkmark icon and the text "Ready to connect (secure connection)". At the bottom, there is a URL "www.teamviewer.com" and a "Cancel" button.

It contains an ID number and a password.

2. Give the ID number to the service technician to enable him to start the remote access using Teamviewer.

The following information must be given for support:

- Dongle key
- Module key
- Licensing status (demo version or full version)
- Licensed modules



Support is with costs. We recommend to conclude a maintenance agreement.

10. Configuration

10.1 Preparation

ATTENTION

Changing the software configuration can cause heavy faults and must therefore only be carried out by the system administrator. For this reason the configuration page can be protected using a password (see *chapter 10.5.3*).



Changing the configuration the first time we recommend to read the chapter Concept (*chapter 4*) first.

10.1.1 Check, if the Service is Running

1. Use the key combination "Ctrl" + "Alt" + "Del".
A Windows list appears.
 2. Click on "Task Manager".
The "Task Manager" window opens.
 3. Click on the "Services" tab (Windows Vista and 7) or "Processes" tab (Windows XP).
The "Services" or "Processes" tab opens.
 4. Search for the entry "Steinhart.RobotManager.Service.Exe".
If the entry can be found in the list, the service is running.
- If the service is not running, it must be started manually (see *chapter 6.3*).

10.1.2 Start the Web Interface

See *chapter 6.4*.

10.2 Open the Configuration Page

1. Click on the wrench icon:



A password request opens.

2. Click on the "OK" button without entering a password.
The configuration page opens (see screen shot next page).



The password request blocks unauthorized users from opening the configuration page and changing the configuration. This avoids heavy faults by wrong configuration. The password setting is described in *chapter 10.5.3*.

The left column of the configuration page is called "Properties". It contains a list of configuration criteria.



The right column of the configuration page contains the settings corresponding to the properties.

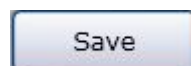


The Configuration web sites can vary depending on the modules used and depending on the robot installed. The current user's instruction explains the corresponding differences.

10.3 Save Configuration

ATTENTION

The Hipax Robot Manager is a client server system. Changed settings must be saved using the **"Save"** button to inform the server about the changes. Otherwise, the changed settings are aborted.



10.4 Configuration Examples

10.4.1 Single Client

Only few steps are required to configure the Hipax Robot Manager in the "Single Client" mode. The following configuration pages are relevant:

- General
- Hardware
- Clients
- Encryption (option)
- Backup (option)

10.4.1.1 General Settings

1. Define the ports, where the Hipax Robot Manager has to listen for incoming files (see *chapter 10.5.4*).
2. Enter the directory, where the label file is located (see *chapter 10.5.6*).

10.4.1.2 Hardware Settings

1. Select the robot (see *chapter 10.6.2.2* or 0).
2. Define the medium size for each bin (see *chapter 10.6.3.3*).
3. Enter the path of the directory used for communication between the Hipax Robot Manager and the robot driver software (for Primera and Epson, see *chapter 10.6.2.1*), or enter the host and port (for Rimage, see *chapter 10.6.3.1*).

10.4.1.3 Clients Settings

1. Fill all data fields (see *chapter 10.7.2.2*).
2. Define additional parameters in the "Fallback settings" area (see *chapter 10.7.4*):
 - Label file
 - Medium size
 - Priority
 - Encryption
 - Verification

10.4.1.4 Encryption Settings

Option, in the case the media are to be encrypted:

1. Define the length of the password.
2. Select the label printer for password print.

ATTENTION

The label printer must be switched on.



10.4.1.5 Backup Medium Settings

Option, in the case that backup media are to be created.

1. Carry out the settings for backup media (see chapter 10.12.2).
2. Select the label file for backup media.

10.4.2 Multi Client

Almost all configuration pages are relevant for the "Multi Client" mode. Only the "Encryption" page and the "Backup" page are options.

Various settings can be carried out for the Multi Client mode. The most common combinations are given in the following chapters:

10.4.2.1 General Settings

1. Click on the "Multi Client" radio button (see *chapter 10.5.2*).
2. Define the ports, where the Hipax Robot Manager has to listen for incoming files (see *chapter 10.5.4*).
3. Enter the directory, where the label file is located (see *chapter 10.5.6*).

10.4.2.2 Hardware Settings

1. Select the robot (see *chapter 10.6.2.2* or *10.6.3.2*).
2. Define the medium size for each bin (see *chapter 10.6.3.2* or *10.6.3.3*).
3. Enter the path of the directory used for communication between the Hipax Robot Manager and the robot driver software (for Primera and Epson, see *chapter 10.6.2.1*), or enter the host and port (for Rimage, see *chapter 10.6.3.1*).

10.4.2.3 Clients Settings

1. Create all clients (see chapter 10.7.3.2). Define one client as "default client" (see chapter 10.7.3.3).
Default client can be an institution, e.g., a group practice. In this case the name of the group practice can be entered as "Physician's name".
2. Fill all data fields for each client (see *chapter 10.7.3.4*).
3. Enter the correct value for referring physician into the "Corresponding identification value in DICOM Tag Referring Physician" edit field for each client (see *chapter 10.7.3.4*, point 3).
4. Define additional parameters in the "Fallback settings" area for the "default client" (see *chapter 10.7.4*):
 - Label file
 - Medium size
 - Priority
 - Encryption
 - Verification

10.4.2.4 DICOM Application Entities

1. Define all DICOM AEs (sending stations) within the network, sending data to the Hipax Robot Manager (see *chapter 10.8.2*).
2. Configure DICOM AEs (see *chapter 10.8.3*).
3. Relate DICOM AEs to clients (see *chapter 10.8.3.4*).

10.4.2.5 Encryption Settings

Option, in the case the media are to be encrypted:

1. Define the length of the password.
2. Select the label printer for password print.

ATTENTION

The label printer must be switched on.

10.4.2.6 Patient Medium Settings

- ▶ Carry out the individual settings for each client (see *chapter 10.10.2.2*).
 - Label file
 - Medium size
 - Priority
 - Encryption
 - Verification

10.4.2.7 Collection Medium Settings

- ▶ Carry out the individual settings for each client (see *chapter 10.11.2.2*).
 - Label file
 - Medium size
 - Priority
 - Encryption
 - Verification

10.4.2.8 Backup Medium Settings

Option, in the case that backup media are to be created.

1. Select the backup mode (see *chapter 10.12.2.1*).
2. Carry out the settings for backup media (see *chapter 10.12.2.3*).
3. Select the label file for backup media.

10.5 General Settings

10.5.1 Open the "General Settings" Page

- ▶ Click on the "**General**" button in the "Properties" column of the configuration page.



The "General Settings" page opens:

The screenshot shows the "Robot Manager 3" configuration interface. At the top, there's a title bar with the application name "Robot Manager 3" and the company "Steinhart Medizinsysteme GmbH". Below the title bar is a navigation pane on the left labeled "Properties" with buttons for "General", "Hardware", "Clients", "DICOM Entities", "Encryption", "Patient Medium", "Collection Medium", and "Backup Medium". The "General" button is selected. The main area is titled "Configuration Page" and "General Settings". It contains several sections: "Type of client mode" with radio buttons for "SingleClient" (selected) and "MultiClient"; "Administrator password" with a "Change Password" button; "Ports" with input fields for "patient" (222), "collection" (333), and "backup" (444); "Patient's identification" with radio buttons for "Identify by name" (selected), "Identify by ID", and "Identify by name and ID"; "Label template files" with a text field showing "C:\RobotManager\Labels" and a "Change..." button; "Language settings" with a dropdown menu set to "English"; and "Dongle and module key" with text fields for "Actual dongle key" and "Actual module key", both with "Change..." buttons. At the bottom right are "Save" and "Cancel" buttons.

10.5.2 Client Mode

Using the "Multi Client" module the "Multi Client" mode can be activated in the "Client Mode" area.

- ▶ Click on the "**Multi Client**" radio button.
Any number of clients can be defined.

Client Mode:
☐ SingleClient ☒ MultiClient

The "Multi Client" radio button is disabled, if the "Multi Client" module is not used.

10.5.3 Administrator Password

The configuration page can be blocked by a password to avoid that unauthorized users cause heavy faults by wrong configuration settings.

The password can be entered or changed in the "**Administrator passwords**" area.

Administrator password:

If you want to change the current administrator password click on 'Change password', type in the old and the new one twice in the corresponding edits.

1. Click on the "**Change Password**" button.

A new area with edit fields opens:

Current administrator password:	<input type="text"/>
Type in the new password:	<input type="text"/>
Retype the new password:	<input type="text"/>
<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

2. Enter the old password t into the "**Current administrator password**" edit field (default: edit field remains empty).
3. Enter the new password into the "**Type in the new password**" edit field.
4. Retype the new password into the "**Retype the new password**" edit field.
5. Click on the "**OK**" button.

The area is closed.

The new password is saved.

ATTENTION

Losing the password disables the access to the configuration page!
The password must therefore be stored to a secure place, where it can be recovered.

10.5.4 Ports

The ports, where the Hipax Robot Manager listens for DICOM files for the different medium types can be entered in the "**Ports**" area.

Ports:

Ports to listen for DICOM-files on the network.

Port to listen for 'Patient' Media files: Port to listen for 'Backup' Media files: Port to listen for 'Collection' Media files:

Default configuration:

- Port 222: Patient medium
- Port 333: Collection medium
- Port 444: Backup medium

10.5.5 Criteria to Identify Patients

The "**Patient Identification**" area provides different criteria for the Hipax Robot Manager to identify images and to relate them to a patient medium:

Patient Identification:

Choose the patient identification method for adding new incoming DICOM data to an existing order.

☒ Identify by Name ☐ Identify by ID ☐ Identify by Name and ID

- "Identify by Name": Only the patient name is used for identification
- "Identify by ID": Only the patient ID is used for identification
- "Identify by Name and ID": Both, patient name and the patient ID are used for identification.

10.5.6 Directory Path to the Label File

The directory path, where the Hipax Robot Manager searches for the label file, must be entered in the "**Label template files**" edit field.

Default configuration:

- Windows XP: *C:\Documents and Settings\User\Application Data\ Hipax Robot Manager 3\Labels\DiscLabel*
- Windows Vista und 7: *C:\Users\User\AppData\Roaming\Hipax Robot Manager 3\Labels\DiscLabel*

Label template files:Folder where to find the label template files: 

A pre-defined Hipax label file is available in the directory path, where the Hipax Robot Manager has been installed: *DefaultLabel.lb4*.

The Hipax Label Editor can be used to create new label files (see *chapter 12.*).

10.5.7 Language Settings

The language of the web interface can be selected: English or German.

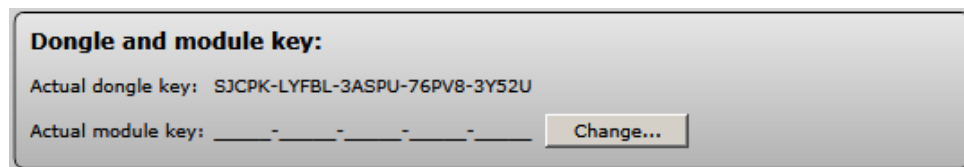
Language settings

Select the language for the user interface:

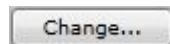
1. Open the "Select the language for the user interface" drop-down list.
2. Select the desired language:
 - English
 - Deutsch

10.5.8 Module-Key

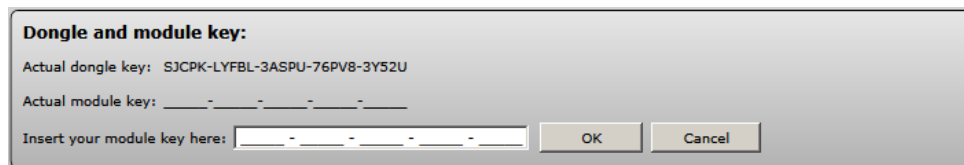
The module key to license the full version of the Hipax Robot Manager and to activate additional modules must be entered in the „Dongle and module key“ field (see also *chapter 6.5*).



1. Click on the "Change" button.



The "Insert your module key here" edit field becomes visible.



2. Enter the module key.
3. Click on the "OK" button.

The module key appears in the "Dongle and module key" field.

10.6 Hardware Settings

10.6.1 Open the "Hardware" Page

- ▶ Click on the "Hardware" button in the "Properties" column of the configuration page.



The "Hardware Settings" page opens:



The content of the "Hardware" page depends on the version of the Hipax Robot Manager installed: for Epson, for Primera or for Rimage: The Rimage settings (see *chapter 10.6.3*) differ from the Epson and Primera settings (see *chapter 10.6.2*).

10.6.2 Configuration for Epson and Primera



10.6.2.1 Enable Communication between Robot Manager and Robot

The "**Hotfolder path**" edit field contains the directory path used by the Hipax Robot Manager to communicate with the hardware interface of the robot manufacturer.



For **Epson** the directory can be selected during the installation of the Epson driver software (field "Monitoring Folder" in the TDBridge software). The default directory path is: *C:\EPSON\TDBridge\Orders*.

For **Primera** the following directory path is given: *C:\PTBurnJobs*.

10.6.2.2 Select Robot

The robot to be used can be selected in the "**List of Devices**" field. All robots are represented as pictures.

For **Epson** robot icons are available for PP-100 and PP-50.

For **Primera** five robot icons are available:

- Disc Publisher SE
- Disc Publisher DP 4100
- Disc Publisher Xi
- Disc Publisher Xi2
- Disc Publisher XR
- Disc Publisher XRP / DP 4102

10.6.2.3 Select Medium Size

The medium size used for each bin can be selected from the "**Bin**" drop-down lists.

For **Epson** up to four bins are available (Bin # 1-4).

For **Primera** two bins are available (Right Bin, Left Bin).

Right Bin	CD Media 650 MB	<input type="button" value="Select for Output"/>
Left Bin	CD Media 650 MB	<input type="button" value="Select for Output"/>

1. Open the drop-down list:

CD Media 650 MB	<input type="button" value="v"/>
-----------------	----------------------------------

2. Select the medium size:

- CD Media 650 MB
- CD Media 700 MB
- DVD Media 4,7 GB
- DVD Media 8,5 GB
- Blu-ray Media 25 GB

The different bins can be configured individually. Thus, one bin can, for example, be used for CD, another bin can be used for DVD.

10.6.2.4 Select Output

All bins available, with the exception of # 1 for Epson and "Right Bin" for Primera can be defined as output for burned and printed media.

- Click on the "**Select for Output**" for the bin to be used for output.

Select for Output

For Primera robots the kiosk mode can be used for output, if available.

Kiosk	<input type="button" value="Select for Output"/>
--------------	--

10.6.3 Configuration for Rimage




10.6.3.1 Enable Communication between Robot Manager and Robot

The Rimage OfficeNet Suite software (Message Server) can be used on the same PC as the Hipax Robot Manager, or on another PC.

The network data of the PC, where the Rimage OfficeNet Suite software has been installed, must be entered in the "**Hardware communication host**" area.

Hardware communication host:	
Host: 192.168.45.61	Port: 4664

1. Enter the host, IP address or UNC path to the Rimage PC into the "**Host**" edit field.


"**localhost**" can be entered into the "Host" edit field, if the Rimage OfficeNet Suite software (Message Server) has been installed on the same PC as the Hipax Robot Manager.
2. Enter the port number, where the Rimage PC listens for burning jobs into the "**Port**" edit field. Default: 4664.

ATTENTION

A network share must be made to the data directory of the Hipax Robot Manager to enable the data delivery to the Rimage software via UNC path. Default directory path: *C:\RobotManager\Data*.

Default configuration:

- Windows XP: *C:\Documents and Settings\User\AppData\Hipax Robot Manager 3\Data*

- Windows Vista und 7: *C:\Users\User\AppData\Roaming\Hipax Robot Manager 3\Data*

10.6.3.2 Select Robot

The robot to be used can be selected in the "**List of Devices**" field. All robots are represented as pictures.

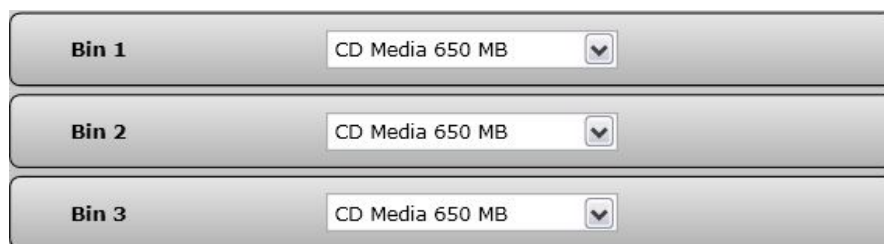
For **Rimage** 10 robot icons are available:

- Producer 6100N
- Producer 7100N
- Producer 8100N
- Professional 3400
- Professional 5100
- Professional 5100Nx
- Professional 5300
- Professional 5300Nx
- Professional 5400
- Rimage 2000i

10.6.3.3 Select Medium Size

The medium size used for each bin can be selected from the "**Bin**" drop-down lists.

The number of bins depend on the Rimage robot type (e.g., Rimage 2000i: 2 bins, Professional 3400: 3 bins).



3. Open the drop-down list:



4. Select the medium size:

- CD Media 650 MB
- CD Media 700 MB
- DVD Media 4,7 GB
- DVD Media 8,5 GB
- Blu-ray Media 25 GB

The different bins can be configured individually. Thus, one bin can, for example, be used for CD, another bin can be used for DVD.

ATTENTION

The same settings for the bins must be carried out in the Rimage OfficeNet Suite software (System Manager).

10.6.3.4 Select Output

For Rimage robots the output bin is defined and cannot be selected.

10.7 Clients Settings

On the "Clients Settings" page the personal data of the clients must be entered to be printed on the label as an option.

Using the Single Client mode, default settings for patient and collection media are to be entered here (see *chapter 10.7.4*).

Using the Multi Client mode, settings for patient and collection media of the "default client" are to be entered here (see *chapter 10.7.4*).

10.7.1 Open "Clients Settings" Page

- ▶ Click on the "**Clients**" button in the "Properties" column of the configuration page.



The "Clients Settings" page opens:



The view of the "Clients Settings" page depends on the general setting "Single Client" or "Multi Client" (see *chapter 10.5.2*).

The **single client configuration** is described in *chapter 10.7.2*.

The **multi client configuration** is described in *chapter 10.7.3*.

10.7.2 Single Client Configuration

10.7.2.1 Configuration Page: Single Client Mode



Robot Manager 3
Steinhart Medizinsysteme GmbH
version 3.2 build 4143

Properties

- General
- Hardware
- Clients**
- DICOM Entities
- Encryption
- Patient Medium
- Collection Medium
- Backup Medium

Configuration Page

Clients Settings
Configuration page for client information

Your Name

☒ Is default client (this client is used as default client only if necessary)

Name: Your Name

Institute: Your Institute

Physician: Your Physiciansname

Postal Code: Your Code

City: Your City

Address: Your Address

E-Mail: Your Email

Phone: Your Phone

Fax: Your Fax

Website: Url of your Website

Tele-Radiology: Your Teleradiology

Corresponding identification value in DICOM tag 'Referring Physician' (0008,0090): Your Ref. Physician

Fallback settings for Patient- and Collection media

Save Cancel

10.7.2.2 Enter User Data

1. Enter the name to be used by the Hipax Robot Manager to identify the user into the "**Name**" edit field.

The name is not represented outside of the program.

2. Fill the following lines of the entry mask.

The lines concern information about the medical practice or hospital to be printed on the label as an option.



Unfilled lines remain empty on the label.

"Corresponding identification value..." is an option for the "Multi Client" mode, but not relevant for the "Single Client" mode.

Default settings for patient and collection media are to be defined in the "**Fallback settings for Patient- and Collection media**" area (see *chapter 10.7.4*).

10.7.3 Multi Client Configuration

10.7.3.1 Configuration Page: Multi Client Mode



Robot Manager 3
Steinhart Medizinsysteme GmbH
version 3.2 build 4143

Properties

- General
- Hardware
- Clients**
- DICOM Entities
- Encryption
- Patient Medium
- Collection Medium
- Backup Medium

Configuration Page

Clients Settings
Configuration page for client information

List of Clients:

Client Name	Status
Your Name Your Institute	Default

Your Name

☒ Is default client (this client is used as default client only if necessary)

Name:

Institute:

Physician:

Postal Code:

City:

Address:

E-Mail:

Phone:

Fax:

Website:

Tele-Radiology:

Corresponding identification value in DICOM tag 'Referring Physician' (0008,0090):

Using the "Multi Client" module the "Client Settings" page is divided into two columns:

The left column contains the list of clients. One client is pre-defined as default, called "Your Name".

The right column contains the edit fields for the user information of the selected client.



The concept of multi client configuration is described in *chapter 4*. We recommend to study this chapter first, before changing the configuration.

10.7.3.2 Add Clients

One client is already existing and defined as "default client": "Your Name". The user name of "Your Name" can be changed, the user data can be entered.

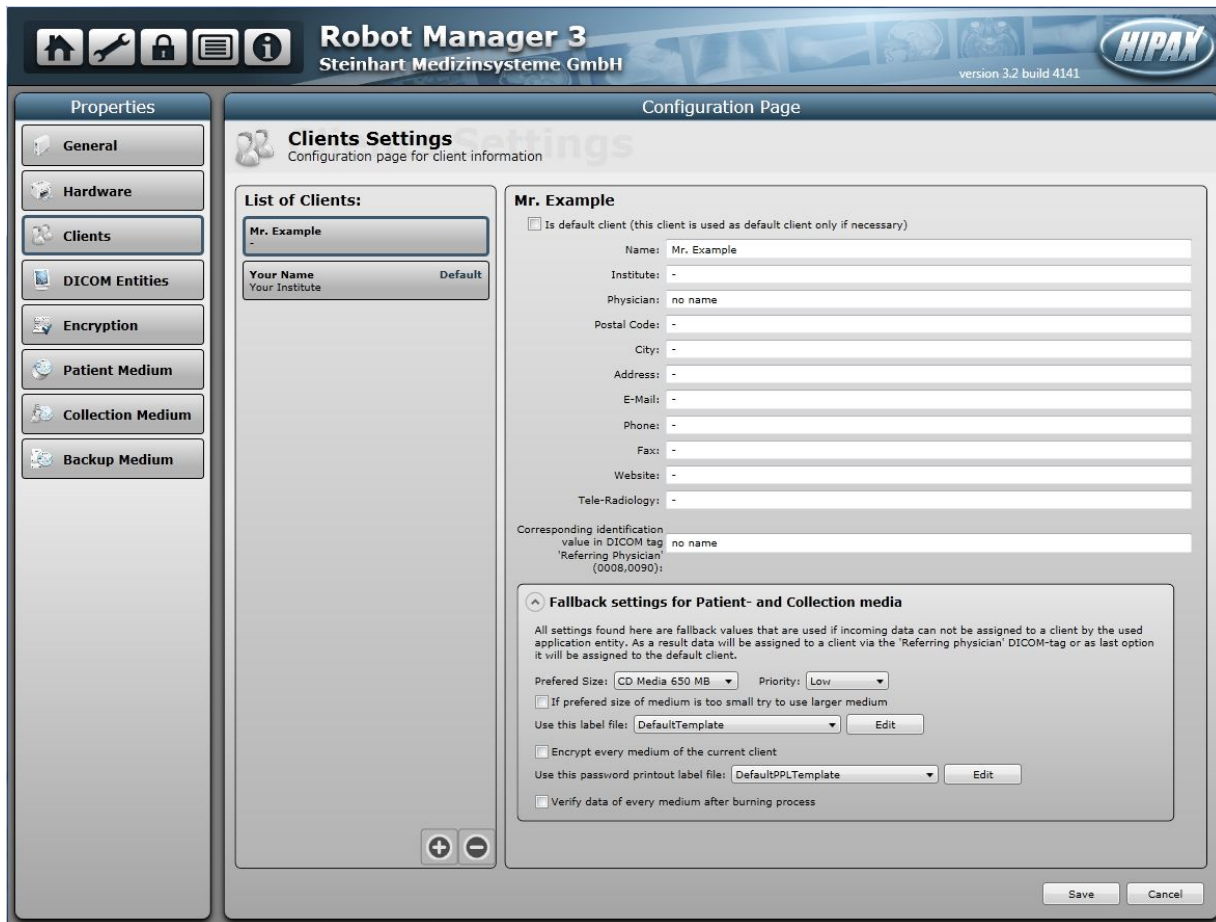
New clients can be added:

- ▶ Click on the plus button:



A new client appears in the "List of Clients" column, called "no name".

The entry mask for the new client appears in the right column of the "Client Settings" page.



10.7.3.3 Default Client

ATTENTION

One client must be defined as "default client", but only one client can be "default client" at the same time.

The settings defined for the "default client" are used for all orders, which cannot be related to any defined client (see *chapter 4.2.4*, point 3.).

- Set a hook into the "**Is default client...**" checkbox of the current client to be defined as "default client"..

☒ Is default client (this client is used as default client only if necessary)

The "default client" is marked in the "Client List" as "Default".

Your Name	Default
Your Institute	

10.7.3.4 Enter User Data

1. Enter the name to be used by the Hipax Robot Manager to identify the client into the "**Name**" edit field.

The name is not represented outside of the program.

2. Fill the following lines of the entry mask of the current client.

The lines concern information about the medical practice or hospital to be printed on the label as an option.



Unfilled lines remain empty on the label.

3. Fill the line "**Corresponding identification value...**", if images are to be related to the client by the name of the referring physician (see *chapter 4.2.4*, point 2.).

If the value of the DICOM tag "Referring Physician" of an incoming image file corresponds to the value defined for a client, the file is related to the current client.

Settings for patient and collection media of the "default client" are to be defined in the "**Fallback settings for ...**" area (see *chapter 10.7.4*).

▼ Fallback settings for Patient- and Collection media

10.7.4 Fallback Parameters

In the "**Single Client**" mode default settings for patient and collection media can be configured in the "Fallback settings..." area.

The "**Multi Client**" mode settings for patient and collection media of the "Default Client" can be configured in the "Fallback settings..." area.

I

▼ Fallback settings for Patient- and Collection media

1. Click on the arrow button:



An entry area opens:

▲ Fallback settings for Patient- and Collection media

All settings found here are fallback values that are used if incoming data can not be assigned to a client by the used application entity. As a result data will be assigned to a client via the 'Referring physician' DICOM-tag or as last option it will be assigned to the default client.

Preferred Size: CD Media 650 MB ▼ Priority: High ▼

☐ If preferred size of medium is too small try to use larger medium

Use this label file: DefaultTemplate ▼ Edit

☒ Encrypt every medium of the current client

Use this password printout label file: DefaultTemplate.hpp ▼ Edit

☐ Verify data of every medium after burning process

2. Select the desired medium size from the "**Preferred Size**" drop-down list.
 - CD Media 650 MB
 - CD Media 700 MB
 - DVD Media 4,7 GB
 - DVD Media 8,5 GB
 - Blu-ray Media 25 GB

The selected medium size must be available for the used robot. For the selection "Blu-ray Media 25 GB" the "Blu-ray" module of the Robot Manager must be installed.

3. Set a hook into the "**If preferred size of medium is too small...**" checkbox, if a bigger medium size shall be used in the case the data volume extends the medium size defined in "Preferred size"
4. „Select the priority of orders of the currently created client from the "**Priority**" drop-down list:
 - High
 - Normal
 - Low
5. Select the pre-defined label file from the "**Use this label-file**" drop-down list.
The list contains all label files located in the directory, which has already been defined on the "General Settings" page (see *chapter 10.5.6*).
6. Set a hook into the "**Encrypt every medium...**" checkbox, if all media created for the current client are to be encrypted.
See also the "Encryption" configuration page, *chapter 10.9*).
7. Set a hook into the "**Verify data of every medium...**" checkbox, if all media created for the current client are to be verified.
As a result, the data on the media are always compared with the original data on the hard disk.

10.8 DICOM AE (Sending Station) Settings

Only relevant for the "Multi Client" mode.



The description for DICOM AE is given in *chapter 4*. We recommend to study this chapter first, before changing the configuration.

10.8.1 Open "DICOM Entities" Page

- Click on the "**DICOM Entities**" button in the "Properties" column of the configuration page.



The "DICOM Application Entities" page opens:



The "DICOM Application Entities" page contains the list of DICOM AEs sending DICOM data to the Hipax Robot Manager.

Orders can be configured and individually related to DICOM AEs.

10.8.2 Create DICOM AEs

DICOM AEs are created automatically as soon as they send DICOM images to the Hipax Robot Manager the first time. The new DICOM AEs are added to the "List of Application Entities".



DICOM AEs can also be created manually:

- ▶ Click on the plus button:



A new entry appears in the DICOM AE list:



10.8.3 Configure DICOM AEs

10.8.3.1 Activate DICOM AE

A newly created DICOM AE can be configured immediately.

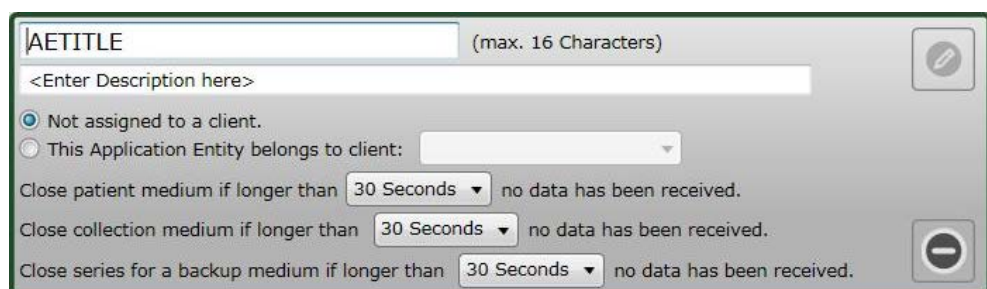
Existing DICOM AEs need to be activated to enable the configuration:

- ▶ Click on the pen button of the DICOM AE to be configured:



The entry in the DICOM AE list gets a blue frame.

The fields can be edited.



10.8.3.2 Enter AE Title

All stations in a network are identified by individual AE titles.

For automatically created DICOM AEs the AE title is entered automatically.

For manually created DICOM AEs the AE title must be entered manually:

- ▶ Enter the **AE title** of the selected DICOM AE.
The entered AE title must correspond to the AE title used by the DICOM AE.
Maximum 16 characters.

10.8.3.3 Enter Description

A description of the DICOM AE can be entered as an option:

- ▶ Enter a **description** for the DICOM AE, if desired.

10.8.3.4 Relate a DICOM AE to a Client

Using the "Multi Client" module (see *chapter 10.5.2*), a DICOM AE can be related to a defined client. As a result, the Hipax Robot Manager treats all data received from this DICOM AE as orders of the related client.

1. Click on the "**This Application Entity belongs to client:**" radio button.
2. Select a client from the drop-down list.

The drop-down list contains all clients defined on the "Clients Settings" page.



The option is only available for the "Multi Client" mode.

Further settings for orders received from a DICOM AE can be carried out on the "Patient Medium" (see *chapter 10.9.2.3*) and "Collection Medium" (see *chapter 10.11*) pages.

10.8.3.5 Timeout for Patient Media

- ▶ Select a value for timeout from the "**Close Patient Medium, if ...**" drop-down list.

Default: 30 seconds.

The timeout defines the period of time, while the Hipax Robot Manager waits for further DICOM files. As soon as no further file has been received within this period of time the "collecting" status ends and the order is closed.

10.8.3.6 Timeout for Collection Media

- ▶ Select a value for timeout from the "**Close Collection Medium, if ...**" drop-down list.

Default: 30 seconds.

The timeout defines the period of time, while the Hipax Robot Manager waits for further DICOM files. As soon as no further file has been

received within this period of time the "collecting" status ends and the order is closed.

10.8.3.7 Timeout for Backup Media

- ▶ Select a value for timeout from the " **Close series for a Backup Medium, if ...**" drop-down list.

Default: 30 seconds.

The timeout defines the period of time, while the Hipax Robot Manager waits for further images of a series, before the "collecting" status ends for the current series.

The order is not closed before the full data volume of received series corresponds to the defined medium size.

10.8.4 Delete DICOM AE

Use the following steps to delete an existing DICOM AE from the list:

- ▶ Click on the minus button of the DICOM AE to be deleted:



The entry is irrevocably deleted from the DICOM AE list.

10.9 Encryption Settings

To prevent data abuse, Hipax media can be AES encrypted as an option. As a result, data access is only enabled after entering a password. Passwords are created individually for each single medium and stored in an own database. Passwords can be printed, e.g., using a label printer.

Encryption settings can be changed on the "Encryption Settings" page.

10.9.1 Open "Encryption Settings" Page

- ▶ Click on the "**Encryption**" button in the "Properties" column of the configuration page.

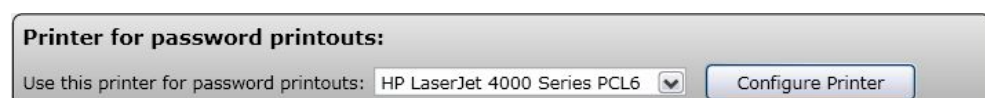


The "Encryption Settings" page opens:



10.9.2 Configure Encryption Settings

10.9.2.1 Select and Configure Label Printer



1. Open "Use this printer for password printouts:" drop-down list.
2. Select the desired printer from the drop-down list.

3. Click on the "**Configure Printer**" button.
A Windows dialog opens for printer configuration.

10.9.2.2 Define Password Length



Password Settings:
Use passwords with letters.

1. Open "Use passwords with..." drop-down list.
2. Select the desired number of characters for the password from the drop-down list.

The number of characters defines the length of the password.

10.9.2.3 Define Directory Path for Password Printout

The directory path to the pre-defined password printout-file can be defined in the "**Password Printout template files**" field.



Password Printout template files:
Folder where to find the password printout template files:

Default configuration:

- Windows XP: *C:\Documents and Settings\User\ Application Data\Hipax Robot Manager 3\Labels\PasswordPrintout*
- Windows Vista and 7: *C:\Users\User\AppData\Roaming\Hipax Robot Manager 3\Labels\PasswordPrintout*

A pre-defined Hipax Label file is available in the installation directory of the Hipax Robot Manager: *DefaultPPL.lb4*.



The Hipax Label Editor can be used to create an own label file for password printouts.

The label file creation is described in *chapter 12*).

10.10 Patient Medium Settings

Only relevant in the "Multi Client" mode.

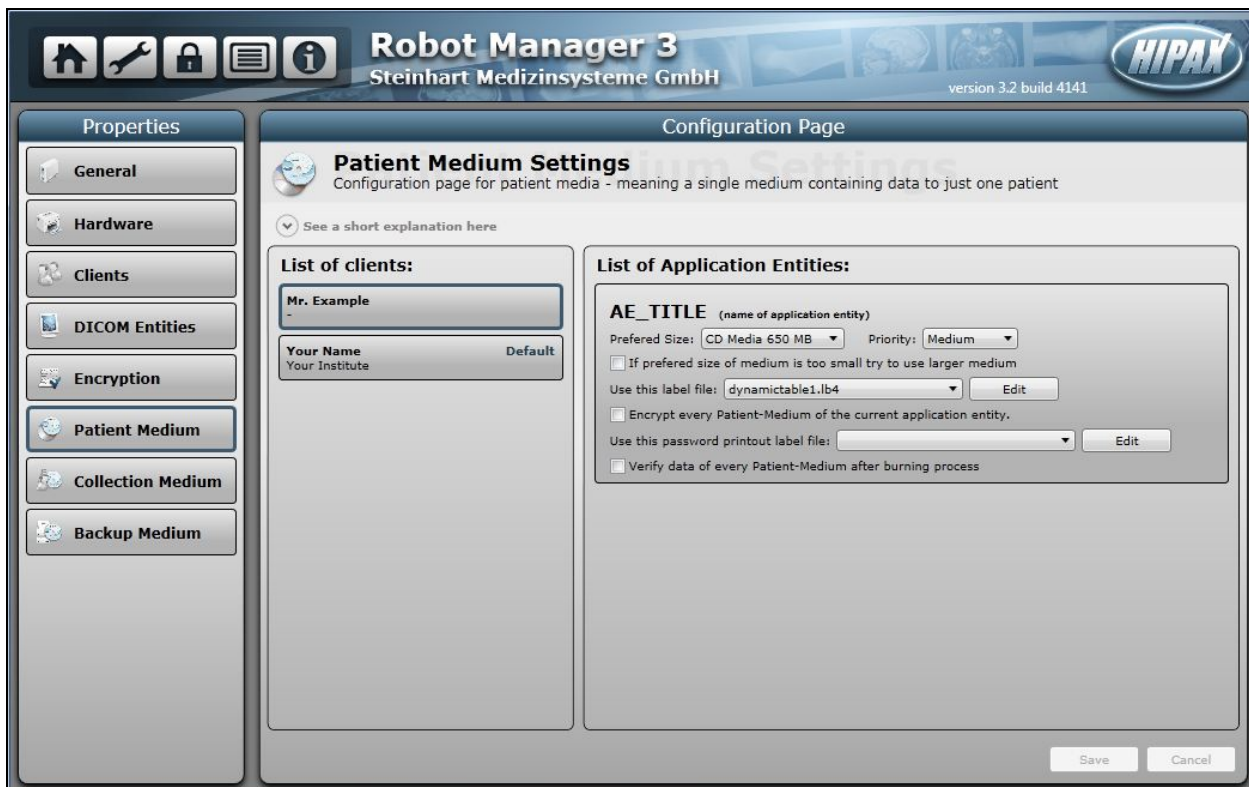
On the "Patient Medium Settings" configuration page individual settings for patient media can be defined for each single DICOM AE related to a client (see *chapter 10.8.3.4*).

10.10.1 Open "Patient Medium Settings" Page

- ▶ Click on the "**Patient Medium**" button in the "Properties" column of the configuration page.



The "Patient Medium Settings" page opens:



The "Patient Medium Settings" page is divided into two columns:

The left column contains the list of clients (see *chapter 10.7.3*).

The right column contains the list of DICOM AEs related to the current client (see *chapter 10.8.3.4*).



The "List of Clients" is only visible, if the Multi Client module has been installed and if the "Multi Client" mode has been activated (see *chapter 10.5.2*).

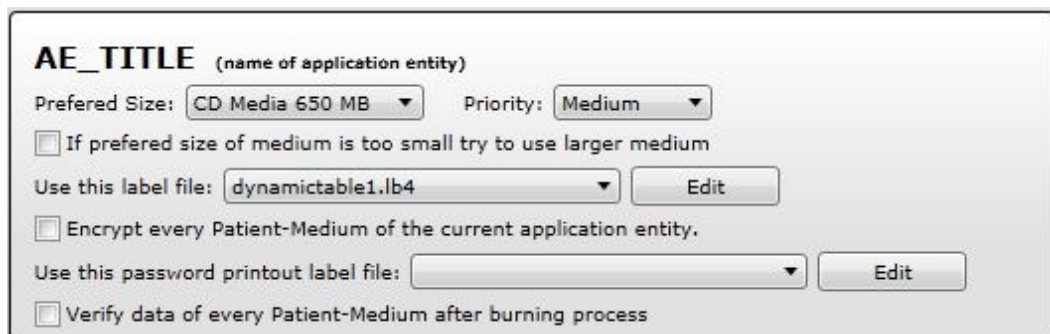
10.10.2 Configure Patient Medium Settings

10.10.2.1 Select Clients

- ▶ Click on the desired entry in the "List of Clients".

The DICOM AEs related to the selected client are given in the right column of the "Patient Medium Settings" page.

10.10.2.2 Client Specific Configuration of DICOM AEs



1. Select the desired medium size from the "**Preferred Size**" drop-down list.

- CD Media 650 MB
- CD Media 700 MB
- DVD Media 4,7 GB
- DVD Media 8,5 GB
- Blu-ray Media 25 GB

The selected medium size must be available for the used robot. For the selection "Blu-ray Media 25 GB" the "Blu-ray" module of the Robot Manager must be installed.

2. Set a hook into the "**If preferred size of medium is too small...**" checkbox, if a bigger medium size shall be used in the case the data volume extends the medium size defined in "Preferred size"

3. „Select the priority of orders of the currently created client from the "**Priority**" drop-down list:

- High
- Normal
- Low

4. Select the pre-defined label file from the "**Use this label-file**" drop-down list.

The list contains all label files located in the directory, which has already been defined on the "General Settings" page (see *chapter 10.5.6*).

5. Set a hook into the "**Encrypt every medium...**" checkbox, if all media created for the current client are to be encrypted.

See also the "Encryption" configuration page, *chapter 10.9*).

6. Select pre-defined label file for the password label print from the "**Use this password printout label file**" drop-down list.

The drop-down list contains all label stored in the directory that has been defined on the "Encryption" page (see *chapter 10.5.6*).

7. Set a hook into the "**Verify data of every medium...**" checkbox, if all media created for the current client are to be verified.

As a result, the data on the media are always compared with the original data on the hard disk.

10.11 Collection Medium Settings



Only relevant in the "Multi Client" mode.

On the "Collection Medium Settings" configuration page individual settings for collection media can be defined for each single DICOM AE related to a client (see *chapter 10.8.3.4*).

10.11.1 Open "Collection Medium Settings" Page

- ▶ Click on the "Collection Medium" button in the "Properties" column of the configuration page.



The "Collection Medium Settings" page opens:



The "Collection Medium Settings" page is divided into two columns:

The left column contains the list of clients (see *chapter 10.7.3*).

The right column contains the list of DICOM AEs related to the current client (see *chapter 10.8.3.4*).



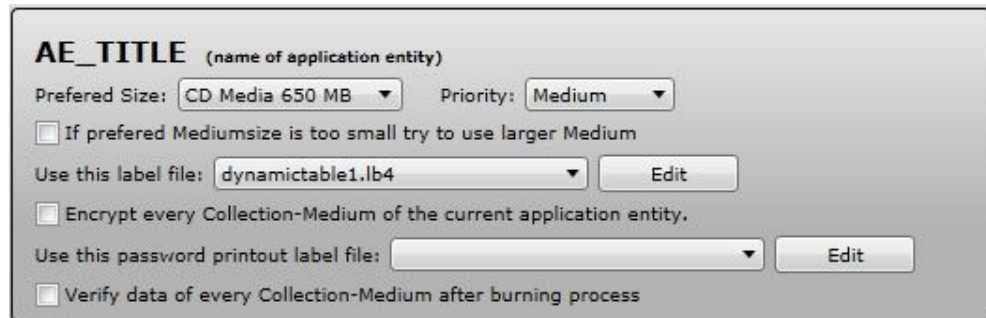
The "List of Clients" is only visible, if the Multi Client module has been installed and if the "Multi Client" mode has been activated (see *chapter 10.5.2*).

10.11.2 Configure Collection Medium Settings

10.11.2.1 Select Clients

- ▶ Click on the desired entry in the "List of Clients".
The DICOM AEs related to the selected client are given in the right column of the "Collection Medium Settings" page.

10.11.2.2 Client Specific Configuration of DICOM AEs



1. Select the desired medium size from the "**Preferred Size**" drop-down list.

- CD Media 650 MB
- CD Media 700 MB
- DVD Media 4,7 GB
- DVD Media 8,5 GB
- Blu-ray Media 25 GB

The selected medium size must be available for the used robot. For the selection "Blu-ray Media 25 GB" the "Blu-ray" module of the Robot Manager must be installed.

2. Set a hook into the "**If preferred size of medium is too small...**" checkbox, if a bigger medium size shall be used in the case the data volume extents the medium size defined in "Preferred size"
3. „Select the priority of orders of the currently created client from the "**Priority**" drop-down list:

- High
- Normal
- Low

4. Select the pre-defined label file from the "**Use this label-file**" drop-down list.

The list contains all label files located in the directory, which has already been defined on the "General Settings" page (see *chapter 10.5.6*).

5. Set a hook into the "**Encrypt every medium...**" checkbox, if all media created for the current client are to be encrypted.
See also the "Encryption" configuration page, *chapter 10.9*).

6. Select pre-defined label file for the password label print from the "**Use this password printout label file**" drop-down list.

The drop-down list contains all label stored in the directory that has been defined on the "Encryption" page (see *chapter 10.5.6*).

7. Set a hook into the "**Verify data of every medium...**" checkbox, if all media created for the current client are to be verified.

As a result, the data on the media are always compared with the original data on the hard disk.

10.12 Backup Medium Settings

On the "Backup Medium Settings" page can be defined, how backup media are to be used. Furthermore, specific settings can be configured for each backup medium.




The "Backup Medium Settings" page is only available, if the "Backup Medium" module has been installed.

10.12.1 Open "Backup Medium Settings" Page

- ▶ Click on the "**Backup Medium**" button in the "Properties" column of the configuration page.



The "Backup Medium Settings" page opens:



The screenshot shows the "Robot Manager 3" interface by Steinhart Medizinsysteme GmbH, version 3.2 build 4141. The left sidebar contains a "Properties" menu with options: General, Hardware, Clients, DICOM Entities, Encryption, Patient Medium, Collection Medium, and Backup Medium. The main area is titled "Configuration Page" and "Backup Medium Settings". It includes a "Choose your backup mode:" section with two radio buttons: "I want to use one single backup for all clients." (selected) and "I want to use a different backup for each client.". Below this is a "List of clients:" table with two entries: "Mr. Example" and "Your Name" (marked as "Default"). The "Settings:" section on the right includes dropdowns for "Size of backup medium:" (CD Media 650 MB) and "Medium priority:" (Normal). It also has a "Use this label file:" dropdown (DefaultTemplate) with an "Edit" button. A note states: "If the size of backup data exceeds 80. % of the maximum medium size submit the backup medium immediately." There are checkboxes for "Encrypt every backup medium of the current selection" (unchecked) and "Verify every backup medium after burning process" (checked). A "Use this password printout label file:" dropdown (DefaultPPLTemplate) with an "Edit" button is also present. "Save" and "Cancel" buttons are at the bottom right.



The "Choose your backup mode" area and the "List of Clients" column are only available, if the "Multi Client" module has been installed, and if the "Multi Client" mode has been activated (see *chapter 10.5.2*).

10.12.2 Configure Backup Medium Settings

10.12.2.1 Select the Backup Mode: Individual or Common



The "Choose your backup mode" field is only available, if the "Multi Client" module has been installed, and if the "Multi Client" mode has been activated..



- ▶ Select the radio button in the "Choose your backup mode" field:
"I want to use just one single backup", if Backup media are to be created for the data of all clients together.
"I want to use a backup for each client", if Backup media are to be created individually for each single client.

10.12.2.2 Select the Client

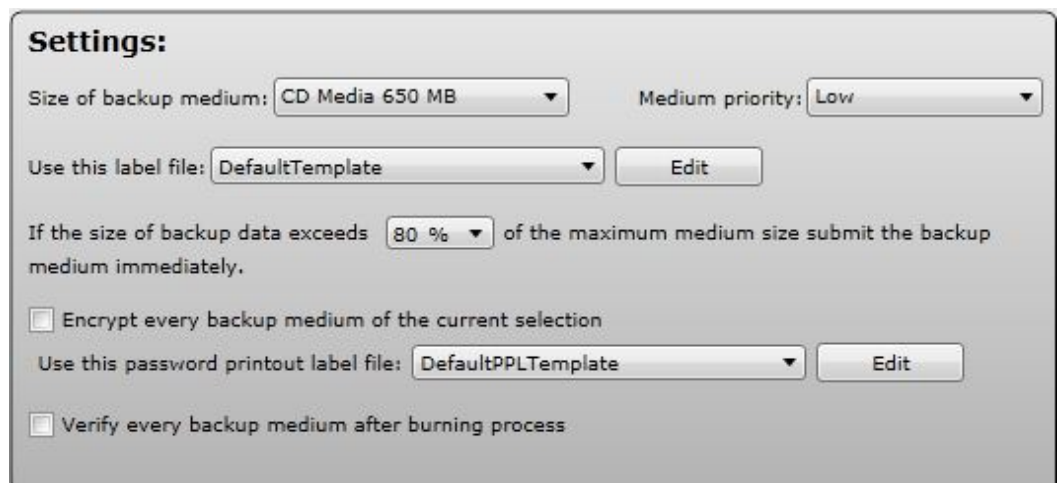


The "List of Clients" column is only available, if the "Multi Client" module has been installed, and if the "Multi Client" mode has been activated. Furthermore, the option "I want to use a backup for each client" must have been selected in the "Choose your backup mode" field (see *chapter 10.12.2.1*).

The client must be selected from the "List of Clients":

- ▶ Click on the desired client in the "List of Clients".
The backup settings related to the corresponding client are given in the right column of the "Backup Medium Settings" page.

10.12.2.3 Configure Client Specific Backup Orders



1. Select the desired medium size from the **"Preferred Size"** drop-down list.



- CD Media 650 MB
- CD Media 700 MB
- DVD Media 4,7 GB
- DVD Media 8,5 GB
- Blu-ray Media 25 GB

The selected medium size must be available for the used robot. For the selection "Blu-ray Media 25 GB" the "Blu-ray" module of the Robot Manager must be installed.

2. Select the priority of orders of the currently created client from the "**Priority**" drop-down list:
 - High
 - Normal
 - Low

3. Select the pre-defined label file from the "**Use this label-file**" drop-down list.

The list contains all label files located in the directory, which has already been defined on the "General Settings" page (see *chapter 10.5.6*).

4. Select the fill level of the medium from the "**If the size of backup data exceeds ...**" drop-down list.

The value defines, from which data volume in relation to the selected medium size the backup medium order has to be closed.

Further incoming files are related to a new order.

5. Set a hook into the "**Encrypt every medium...**" checkbox, if all media created for the current client are to be encrypted.

See also the "Encryption" configuration page, *chapter 10.9*).

6. Select pre-defined label file for the password label print from the "**Use this password printout label file**" drop-down list.

The drop-down list contains all label stored in the directory that has been defined on the "Encryption" page (see *chapter 10.5.6*).

7. Set a hook into the "**Verify data of every medium...**" checkbox, if all media created for the current client are to be verified.

As a result, the data on the media are always compared with the original data on the hard disk.

10.13 Configuration of the DICOM Query/Retrieve Module

The DICOM Query/Retrieve module of the Hipax Robot Manager is an own application to be configured separately (see *chapter 11.4*).

11. DICOM Query/Retrieve

11.1 Purpose

The DICOM Query/Retrieve module of the Hipax Robot Manager can be used to query any DICOM station for DICOM files to be burned on a patient or collection media automatically.

11.2 Installation

The DICOM Query/Retrieve module is part of the Hipax Robot Manager installation package. The module is enabled by a module key. The module key is requested at the first start of the module.

11.3 Module Start and Licensing

1. Start the Windows Explorer.
2. Open the directory (default configuration):
C:\Program files\Steinhart\Hipax Robot Manager\ActiveMediaCreator\.
3. Use a double mouse click on:
Steinhart.RobotManager.ActiveMediaCreator.exe
The "MediaCreator" application opens.



Starting the application the first time, a dialog opens, where the module key must be entered to enable the DICOM Query/Retrieve module.



The module key is the same as used for the Hipax Robot Manager general application.

The user interface of the application is in English language. The language can also be changed to German, if required (see *chapter 11.4.2*).

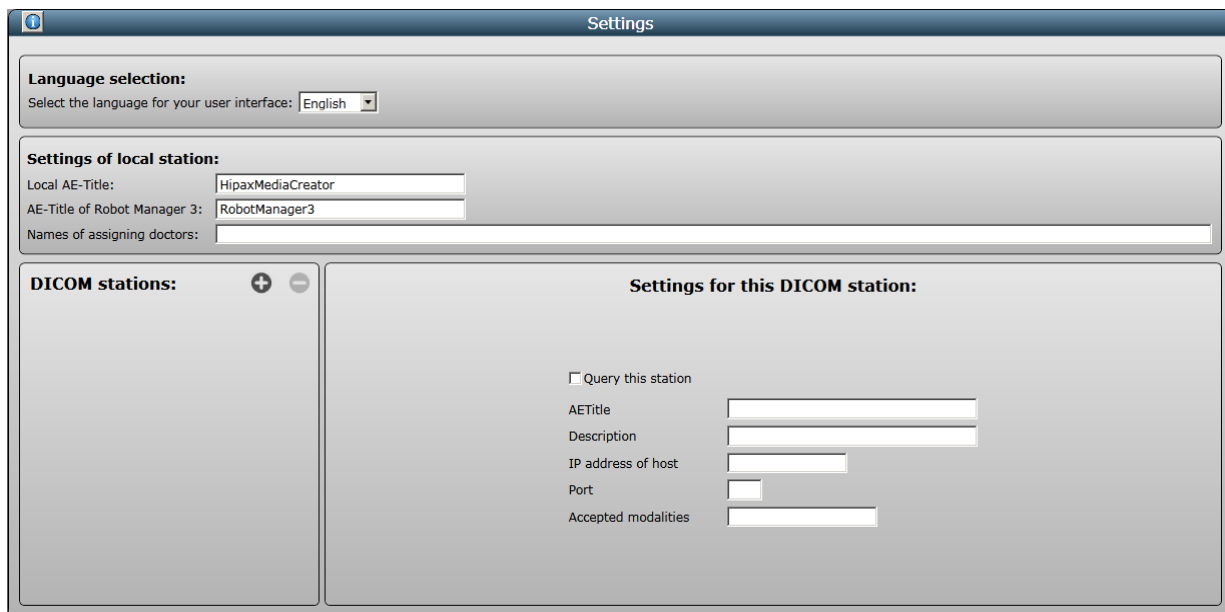
11.4 Configuration

11.4.1 Open the Configuration Dialog

1. Click on the wrench icon in the symbol bar of the Robot Manager "MediaCreator" user interface.



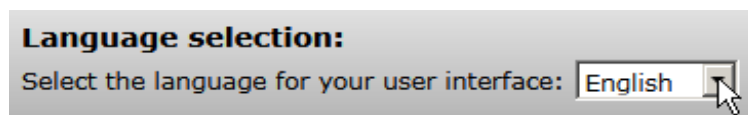
The configuration dialog opens:



The screenshot shows the 'Settings' dialog box. It has a title bar with a blue icon and the word 'Settings'. The dialog is divided into several sections: 'Language selection:' with a dropdown menu set to 'English'; 'Settings of local station:' with text boxes for 'Local AE-Title:' (HipaxMediaCreator), 'AE-Title of Robot Manager 3:' (RobotManager3), and 'Names of assigning doctors:'. Below this is a 'DICOM stations:' section with a list box (currently empty) and a '+' button. To the right of the list box is the 'Settings for this DICOM station:' section, which includes a checkbox for 'Query this station' (unchecked) and text boxes for 'AETitle', 'Description', 'IP address of host', 'Port', and 'Accepted modalities'.

11.4.2 Language Settings

1. Open the "Language selection" drop-down list.



2. Select the desired language:
"English" or "Deutsch".
Selecting "Deutsch" the language of the user interface changes to German immediately.

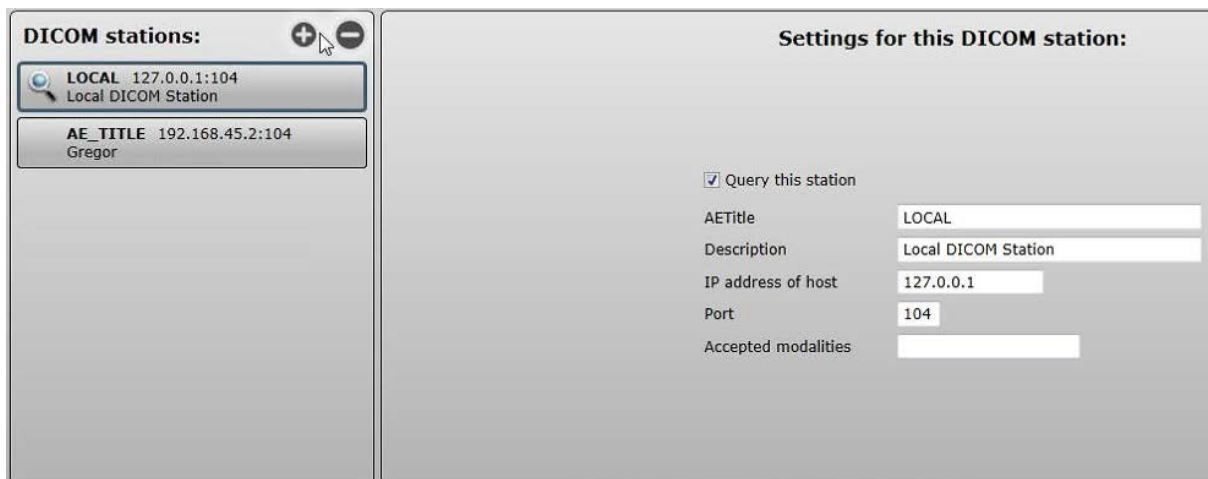
11.4.3 Define DICOM Stations

1. Enter the following DICOM parameters of the station to be queried into the "Settings..." edit fields:
 - AE Title
 - Description
 - IP address of host
 - Port number
2. Set a hook into the "**Query this station**" checkbox, if the DICOM station shall be considered for a DICOM Query.

☒ Query this station

3. Click on the "+" button.

The new DICOM Station is added to the list of DICOM stations on the left side of the user interface.



Stations, where the "Query this station" checkbox has been activated are marked in the list by a magnifying glass icon.



11.4.4 Delete DICOM Stations

1. Left mouse click on the DICOM station to be deleted.
2. Click on the "-" button.

The station is deleted from the list.

At least one station must exist. For this reason, the "-" button is disabled for the final existing or single existing DICOM station.

11.4.5 Define the Hipax Robot Manager as Move Destination

On all sending DICOM stations the Hipax Robot Manager must be introduced as move destination. See users instruction of the sending station software.

11.5 Query

1. Click on the house icon in the symbol bar of the Robot Manager "MediaCreator" user interface.



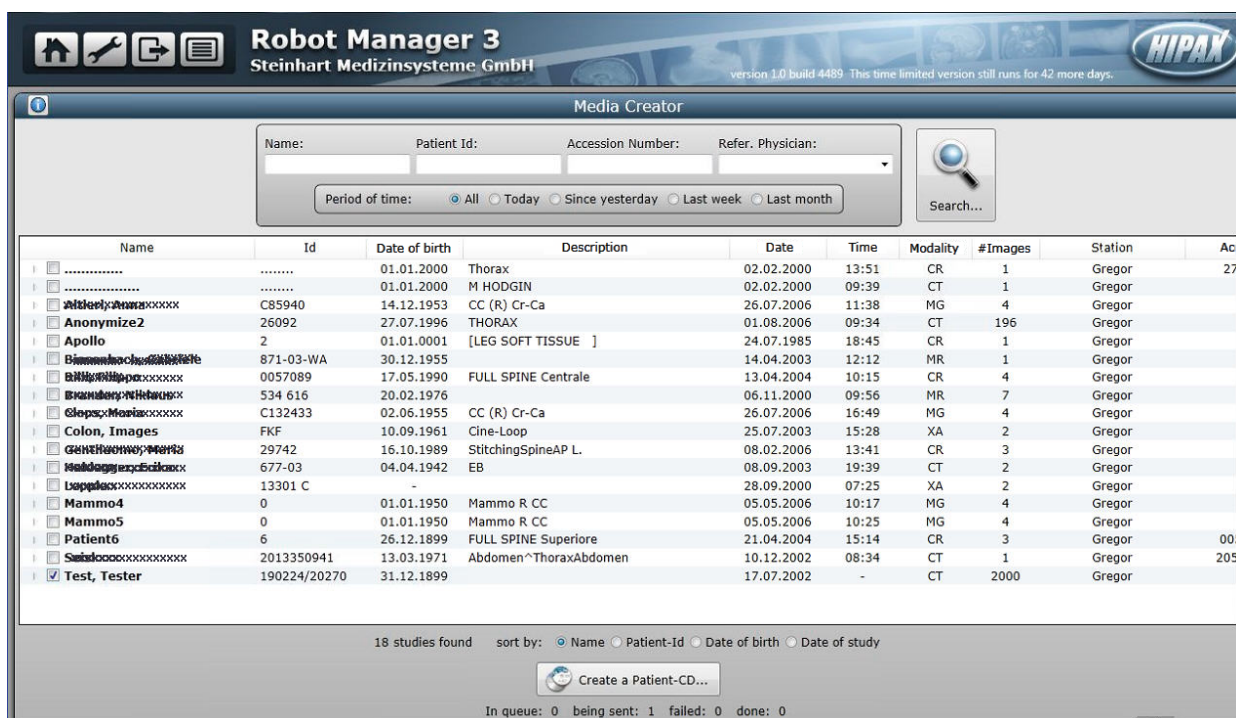
The patient list of the Robot Manager "MediaCreator" opens.

2. Click on the "Search" button.



All DICOM stations determined in the configuration dialog of the Robot Manager "MediaCreator" are queried.

As a result all patients queried appear in the patient list of the Robot Manager "MediaCreator" user interface.



Robot Manager 3
Steinhart Medizinsysteme GmbH

version 1.0 build 4489. This time limited version still runs for 42 more days.

Media Creator

Name: Patient Id: Accession Number: Refer. Physician:

Period of time: ☒ All ☐ Today ☐ Since yesterday ☐ Last week ☐ Last month

Search...

Name	Id	Date of birth	Description	Date	Time	Modality	#Images	Station	Ac
Thorax	01.01.2000	Thorax	02.02.2000	13:51	CR	1	Gregor	27
M HODGIN	01.01.2000	M HODGIN	02.02.2000	09:39	CT	1	Gregor	
CC (R) Cr-Ca	C85940	14.12.1953	CC (R) Cr-Ca	26.07.2006	11:38	MG	4	Gregor	
THORAX	26092	27.07.1996	THORAX	01.08.2006	09:34	CT	196	Gregor	
[LEG SOFT TISSUE]	2	01.01.0001	[LEG SOFT TISSUE]	24.07.1985	18:45	CR	1	Gregor	
MR	871-03-WA	30.12.1955	MR	14.04.2003	12:12	MR	1	Gregor	
FULL SPINE Centrale	0057089	17.05.1990	FULL SPINE Centrale	13.04.2004	10:15	CR	4	Gregor	
MR	534 616	20.02.1976	MR	06.11.2000	09:56	MR	7	Gregor	
CC (R) Cr-Ca	C132433	02.06.1955	CC (R) Cr-Ca	26.07.2006	16:49	MG	4	Gregor	
Cine-Loop	FKF	10.09.1961	Cine-Loop	25.07.2003	15:28	XA	2	Gregor	
StitchingSpineAP L.	29742	16.10.1989	StitchingSpineAP L.	08.02.2006	13:41	CR	3	Gregor	
EB	677-03	04.04.1942	EB	08.09.2003	19:39	CT	2	Gregor	
XA	13301 C	-	XA	28.09.2000	07:25	XA	2	Gregor	
Mammo R CC	0	01.01.1950	Mammo R CC	05.05.2006	10:17	MG	4	Gregor	
Mammo R CC	0	01.01.1950	Mammo R CC	05.05.2006	10:25	MG	4	Gregor	
FULL SPINE Superiore	6	26.12.1899	FULL SPINE Superiore	21.04.2004	15:14	CR	3	Gregor	001
Abdomen^ThoraxAbdomen	2013350941	13.03.1971	Abdomen^ThoraxAbdomen	10.12.2002	08:34	CT	1	Gregor	205
Test, Tester	190224/20270	31.12.1899	Test, Tester	17.07.2002	-	CT	2000	Gregor	

18 studies found sort by: ☒ Name ☐ Patient-Id ☐ Date of birth ☐ Date of study

Create a Patient-CD...

In queue: 0 being sent: 1 failed: 0 done: 0

The patient list can be filtered and ordered by:

- Name
- Patient ID
- Accession number
- Referring physician
- Study date

11.6 Create Patient or Collection Media

1. Make sure that the Hipax Robot Manager 3 service is active.
2. Left mouse click in the checkboxes of one or several patients in the result list, from which a patient media or collection media shall be created.

<input type="checkbox"/>	Patient6	6
<input type="checkbox"/>	Seidcccccccccccccccc	2013350941
<input checked="" type="checkbox"/>	Test, Tester	190224/20270

The patients and all corresponding studies and pictures are selected.

3. Click on the "**Create a Patient CD**" button in the bottom part of the Robot Manager "MediaCreator" user interface.



All studies of the selected patient or patients are transferred to the Robot Manager as a burning job.

The patient or collection media is created.

12. Label Editor

12.1 Start Label Editor



Label files must be stored locally on the PC, where the Hipax Robot Manager service has been installed. For this reason, the Hipax Robot Manager label editor must also be started on the same PC.

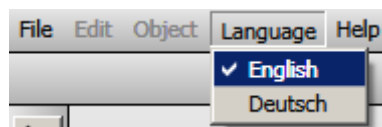
- ▶ Use the Windows start function on the PC, where the Hipax Robot Manager has been installed:

"Start" → "Program files" → "Steinhart" → "Hipax Robot Manager 3" → "Label Editor".

The Hipax Label Editor user interface opens.

12.2 Language Settings

1. Use the main menu: "Language":



2. Select the desired language:

"English" or "Deutsch".

Selecting "Deutsch" the language of the user interface changes to German immediately.

12.3 Create New Label File

Use the following steps to open a new, empty label interface:

1. Main menu: "File" - "New".

A new, empty label interface opens:



12.4 Open Existing Label File

Use the following steps to open an existing label file:

1. Main menu: "File" - "Open".
A Windows dialog opens:
2. Select the desired label file from the dialog.
The selected label file opens.

12.5 Configure the Size of the Display Area

Use the "**Zoombox**" on the right upper margin of the Label Editor user interface to configure the size of the label display area.



12.5.1 Stepless Zoom

- ▶ Move the **scrollbar** in the "Zoombox".
Depending on the moving direction the label display area is increased or decreased in size.

12.5.2 Defined Settings

12.5.2.1 Maximal Height

- ▶ Click on the left button in the "Zoombox":



The label is given in maximal height.

12.5.2.2 Maximal Width

- ▶ Click on the right button in the "Zoombox".



The label is given in maximal width.

12.5.2.3 Original Size

- ▶ Click on the central button in the "Zoombox".



The label is given in original size.

12.6 Edit Label File

12.6.1 Button Bar

A button bar is located on the left side of the Label Editor user interface, where different objects can be selected and added to the label.



Line object: represents a single line. The thickness of the line can be configured (see *chapter 12.6.2.1*).



Static text object: Simple text object with static text to be entered directly (see *chapter 12.6.2.2*).



Dynamic text object: Wildcard for a patient specific or user specific text. The content of the text element is filled as soon as the medium is printed (see *chapter 12.6.2.3*).



Circular static text object: Simple text object with static text to be entered directly. The text will be arranged automatically in a circular format (see *chapter 12.6.2.3*).



Dynamic table object: Wildcard for patient- or user specific data in table format. The table will be inserted as soon as the medium is created (see *chapter 12.6.2.5*).



Simple picture object: The picture can be moved on the label and changed in size and in opacity (see *chapter 12.6.2.5*).



Background picture: The background picture is fitted to the label size. It must be rectangular for not to be strained. The background picture cannot be moved and changed in size, but it can be changed in opacity (see *chapter 12.6.2.7*).



Gridlines can be faded in to help to orientate objects (see *chapter 12.6.3.5*).



Auxiliary lines forming crosshairs to show the center of the label (see *chapter 12.6.3.6*).

12.6.2 Insert and Process Objects

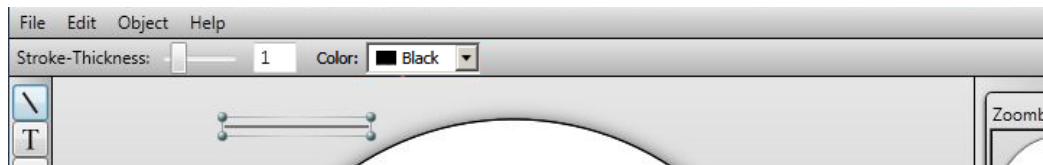
12.6.2.1 Line Object

Use the following steps to add a line object to the label:

- ▶ Click on the line button.



A line is added to the Label Editor user interface.



The selected line object can be processed:

1. Click the left mouse button on the line object and move the mouse keeping the mouse button pressed.
The object is **moved**.
2. Click the left mouse button on one of the marker points of the selected line object and move the mouse keeping the mouse button pressed.
The line is **directed** or changed in **length**.
3. Open the "**Stroke**" drop-down list and choose a color for the selected line object.
The **color** of the selected line is changed
4. Move the "**Stroke Thickness**" scrollbar.
The thickness of the selected line is changed.

12.6.2.2 Static Text Object

Use the following steps to add a static text object to the label:

- ▶ Click on the circular static text button.



A static text object is added to the Label Editor user interface.



The selected static text object can be processed:

1. Enter the desired **text** into the selected static text object.
The text is shown immediately.
2. Click the left mouse button on the static text object and move the mouse keeping the mouse button pressed.
The object is **moved**.
3. Open the "**Font**" drop-down list to change the **font type**.
4. Open the "**Size**" drop-down list to change the **font size**.
5. Click on the text formatting buttons, if the selected static text object shall be printed **bold**, **italic** or **underlined**:



- Click on the paragraph formatting buttons to change the orientation of the static text within the text field: **left**, **centered** or **right**:



- Open the "**Color**" drop-down list to change the font color.

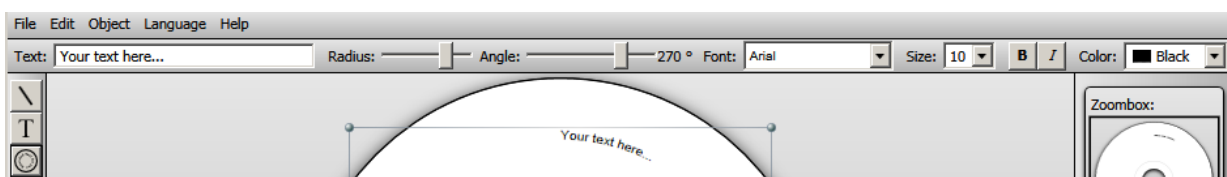
12.6.2.3 Circular Static Text Object

Use the following steps to add a circular static text object to the label:

- Click on the static text button.



A circular static text object is added to the Label Editor user interface.



The selected static circular text object can be processed:

- Enter the desired **text** into the selected circular static text object.
The text is shown immediately.
- Click the left mouse button on the one of the four corner points of the text field and move the mouse keeping the mouse button pressed.
The object is **decreased** or **increased** in size.
- Use the "**Radius**" scroll bar to change the radius of the circular text object.
- Use the "**Angle**" scroll bar to define the position, where the circular text shall be started.
- Open the "**Font**" drop-down list to change the **font type**.
- Open the "**Size**" drop-down list to change the **font size**.
- Click on the text formatting buttons, if the selected static text object shall be printed **bold** or **italic**:



12.6.2.4 Dynamic Text Object

Use the following steps to add a dynamic text object to the label:

- Click on the dynamic text button.

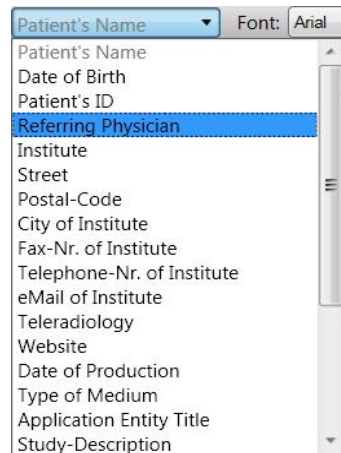


A dynamic text object is added to the Label Editor user interface.



The title of the dynamic text object defines the text finally printed on the label.

1. Open the "**Defined Label**" drop-down list.



2. Choose the desired title for the selected dynamic text object from the drop-down list.

Patient data and study data are taken from the DICOM headers of the images. User data are taken from the "Clients Settings" configuration page of the Hipax Robot Managers (see *chapter 10.7.2.2* or *10.7.3.4*).

The selected dynamic text object can be processed:

1. Click the left mouse button on the dynamic text object and move the mouse keeping the mouse button pressed.
The object is **moved**.
2. Open the "**Font**" drop-down list to change the **font type**.
3. Open the "**Size**" drop-down list to change the **font size**.
4. Click on the text formatting buttons, if the selected dynamic text object shall be printed **bold**, **italic** or **underlined**:



5. Click on the paragraph formatting buttons to change the orientation of the dynamic text within the text field: **left**, **centered** or **right**:



6. Open the "**Color**" drop-down list to change the font color.

12.6.2.5 Dynamic Table Object

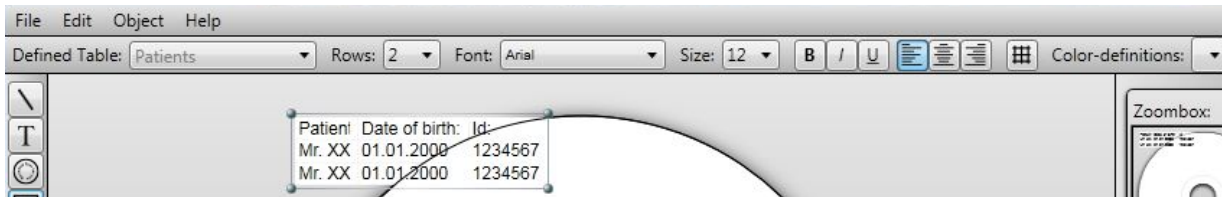
A dynamic table object is a table, where the values are not entered until the real label of a particular medium is created. The values are then rendered in the final label bitmap file.

Use the following steps to insert a dynamic table object:

- ▶ Click on the dynamic table button.



A dynamic text table object is added to the Label Editor user interface.



The type of the dynamic table object determines the content of the table object to be printed on the label:

1. Open the "**Defined Table**" drop-down list.
2. Select the desired type of the dynamic table object.
Patient- and study data are taken from the DICOM header of the images. User data are taken from the "Client Settings" page of the Hipax Robot Manager (see *chapter 10.7.2.2* or *10.7.3.4*).

The dynamic table object selected can be processed as follows:

3. Use a left mouse click on the dynamic table object and move the dynamic table object keeping the left mouse button pressed to **move** the table object to the desired position.
4. Open the "**Row**" drop down list and enter the desired number of rows to be used for the dynamic table object.
5. Open the "**Font**" drop-down list and select the desired font type to be used for the table values.
6. Open the "**Size**" drop-down list and select the font size to be used for the table values.
7. Use the following buttons to use **bold**, **italic** or **underlined** characters for the dynamic table object:



8. Use the following buttons to define the **paragraph format** of the dynamic table object:



9. Click on the grid button to hide the table frames.



Click again on the grid button to fade the table frames off.

10. Open the "**Color-definitions**" drop-down list and select the colors for texts and table fields.

12.6.2.6 Simple Picture Object

Any pictures can be added to the label, e.g., logos, photos of the clinic or of the physician. Hipax supports the following formats:

- PNG
- JPEG

- BMP

Use the following steps to add a simple picture object to the label:

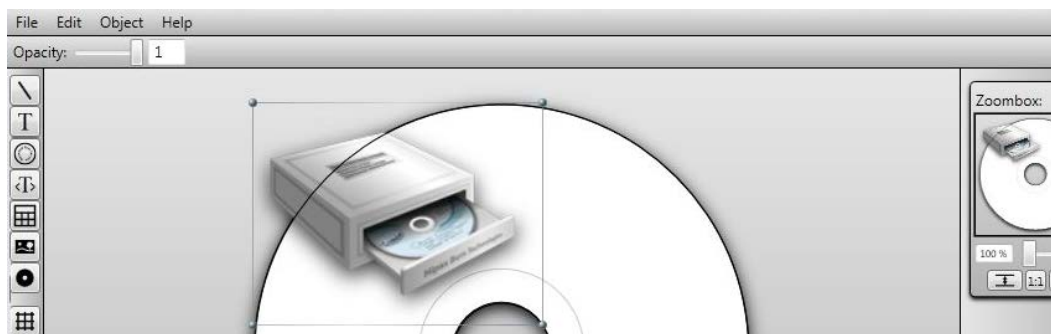
1. Click on the simple picture button.



A Windows dialog opens.

2. Search the directory path, where the desired picture is located, from the Windows dialog.
3. Choose the desired picture from the Windows dialog.
4. Click on the "**Open**" button.

The chosen picture is added to the Label Editor user interface.



The selected simple picture object can be processed:

1. Click the left mouse button on the simple picture object and move the mouse keeping the mouse button pressed.

The object is **moved**.

2. Click the left mouse button on one of the marker points of the selected simple picture object and move the mouse keeping the mouse button pressed.

The image is changed in **size**.

Press the "Shift" key while changing the size to keep the proportion of the image.

3. Move the "**Opacity**" scrollbar.

The opacity of the picture object is changed.

12.6.2.7 Background Picture Object

A background picture can be added to the label. All other objects are displayed in front of the background picture.



The size of the background picture is adjusted automatically to the label size.

The background picture must be rectangular for not to be strained.

Hipax supports the following formats:

- PNG
- JPEG

- BMP

Use the following steps to add a background picture object to the label:

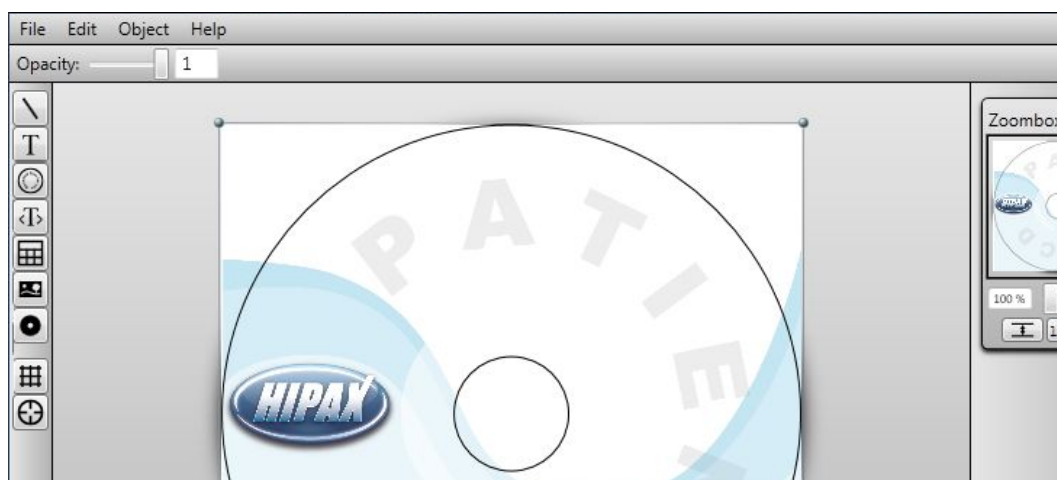
1. Click on the background picture button.



A Windows dialog opens.

2. Search the directory path, where the desired picture is located, from the Windows dialog.
3. Choose the desired picture from the Windows dialog.
4. Click on the "**Open**" button.

The chosen picture is added to the Label Editor user interface.



The opacity of the selected background picture can be changed:

- Move the "**Opacity**" scrollbar.

The opacity of the picture object is changed.

12.6.3 Orientate Objects

All objects, with the exception of the background picture, can be moved, orientated or set to the foreground or background at will.

12.6.3.1 Move Object

1. Click the left mouse button on the desired object.
The object is selected.
2. Move the mouse keeping the mouse button pressed.
The object is **moved**.

12.6.3.2 Change Object Size

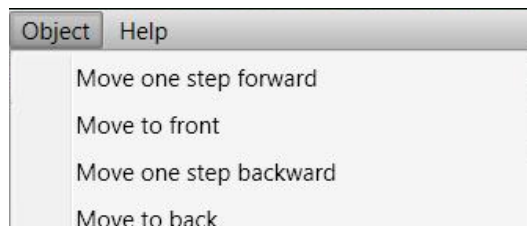
3. Use a left mouse click on the object.
The object is selected.
4. Use a left mouse click on a marker point or marker line and move the mouse keeping the mouse button pressed.

The object is changed in **size**.

Press the "Shift" key while changing the size to keep the proportion of the object size.

12.6.3.3 Set Object into the Foreground or Background

1. Click the left mouse button on the desired object.
The object is selected.
2. Click on the "**Object**" menu item in the main menu.
The "Object" menu opens.
3. Select the desired option:



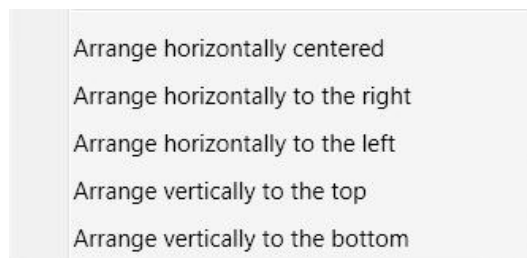
- Move one step forward
- Move to front
- Move one step backward
- Move to back



The background picture is always in the very back.

12.6.3.4 Orientate Objects Together

1. Use "Ctrl" and a left mouse click on all objects to be oriented together.
All these objects are selected.
2. Click on the "**Object**" menu item in the main menu.
The "Object" menu opens.
3. Select the desired option:



- Arrange horizontally centered
- Arrange horizontally to the right
- Arrange horizontally to the left
- Arrange vertically to the top
- Arrange vertically to the bottom

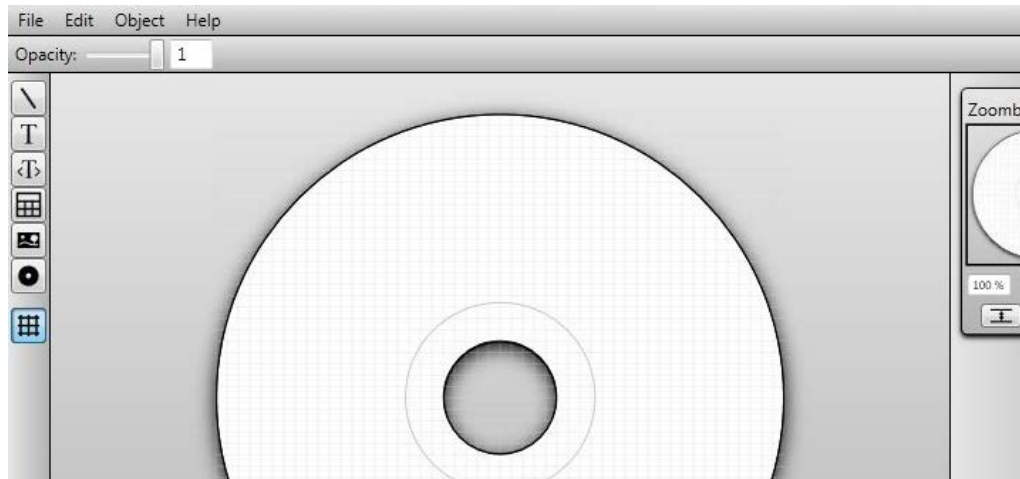
12.6.3.5 Grid Lines

Grid lines can be faded in to orient objects on the label:

- ▶ Click on the grid lines button in the button bar.

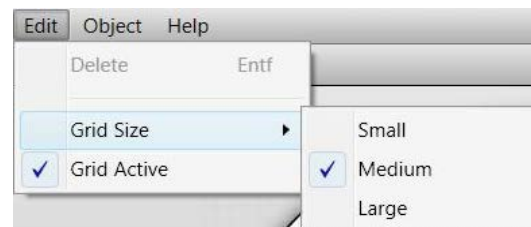


Grid lines appear.



The grid size can be configured:

1. Click on the "**Edit**" menu item in the main menu.
The "Edit" menu opens.
2. Click on the "**Grid Size**" submenu item.
The "Grid Size" submenu opens.



3. Select the desired grid size:
 - Small
 - Medium
 - Large

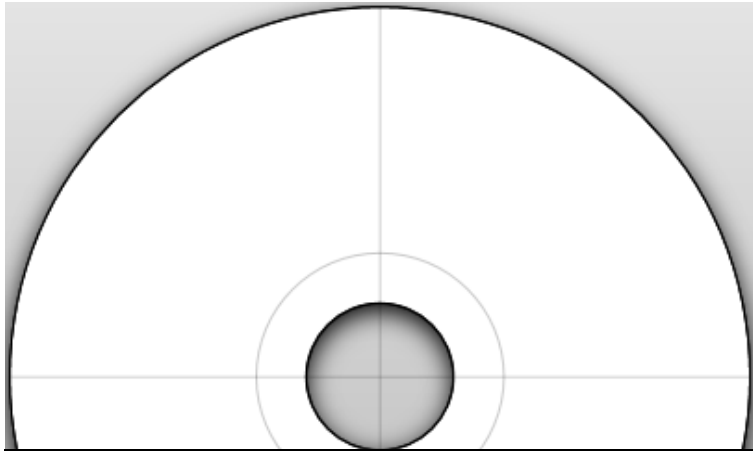
12.6.3.6 Crosshairs

Crosshairs can be faded in to orient objects on the label and to show the center of the label:

- ▶ Click on the crosshairs button in the button bar.



Grid lines appear.



12.7 Save Label File

1. Click on the "**File**" menu item in the main menu.
The "File" menu opens.

2. Click on the "**Save as**" submenu item.
A Windows dialog opens.

3. Choose the directory, where the label file has to be saved.

ATTENTION

It must be the same directory that has been defined on the "General Settings" configuration page of the Hipax Robot Manager (see *chapter 10.5.6*).

Default configuration: *C:\temp*.

4. Save the label file using a descriptive name.
The file extension is: *.lb4.

13. Workflow of the Hipax Robot Manager

13.1 Open Order List

- Click on the house icon:



The order list page opens.

13.2 DICOM Receiver

The "**DICOM Receiver**" area of the order list page shows current connections between a DICOM AE and the Hipax Robot Manager (see *chapter 9.1.2.2*).

A green field appears, where the following information is given:

- AE-Title of the DICOM AE
- IP address of the DICOM AE
- Port used
- Number of open connections to the current DICOM AE



13.3 Order Processing

The order of the data received during the current connection appears in the "**Currently active**" tab of the "**Order List**".

The following information is given:

- Medium type (here patient medium)
- Name of the patient (here "Skull", only for patient media)
- Time, when the order has been created
- Stage of process
- Number of images received
- Data volume of images received

Further information about the current order is available in a detail view:

- Click on the arrow button:



A detail view opens:



The detail view shows the processing stages marked by colors:

- The current processing stage is given in **blue**.
- Successfully finished processing stages are given in **green**.
- Processing stages, where an error occurred are given in **red**.

Processing stages are:

- collecting** Data of an order are collected. The timeout period has not yet expired.
- preparing** The timeout period has expired. No more data are collected for the current order. The data are of the order are portioned to jobs corresponding to the given medium sizes.
- encrypting** The single jobs of the order are encrypted.
- creating** A label is created for each job of the order.
- waiting** The order waits to be delivered to the robot. The waiting time depends on the number of orders currently processed by the robot.
- burning** The order has been delivered to the robot. The media are burned.
- completed** The order is successfully completed.

More detailed information is available for most of the processing stages, for example, in the case an error occurs.

- Click on the "i" button of the desired processing stage to get more detailed information.



An additional area opens containing error messages.

14. Appendix

14.1 Directory- and File Structure on the Medium

The following directory- and file structure is created on a medium by default.



For encrypted media the same structure is located within the encrypted "Data.Zip" archive.

Main directory of the medium	
\Dicomdir	DICOM content file
\Readme.txt	File with explanations of the medium content and of the use of the medium content
\Autorun.inf	File for the automatic start of the viewer
\TheLabel.png	Label file printed on the medium (Epson Primera)
\TheLabel.pdf	Label file printed on the medium (Rimage)
\UnlicensedVersion.txt	File created by unlicensed versions of the Hipax Robot Manager
\content\	Directory for content files
\content\Content.html	HTML file combining content, patients, studies
\content\Content.pdf	PDF file combining content, patients, studies
\content\Content.txt	TXT file combining content, patients, studies
\Viewer\	
\Viewer\display.ini	Configuration file for the viewer
\Viewer\HelpPat-CD.chm	Help file for the viewer
\Viewer\JPEG32.dll	Configuration file for the viewer
\Viewer\Language.dat	Configuration file for the viewer
\Viewer\Viewer.exe	Hipax viewer
\Viewer\Config	
\Viewer\Config\Ds.config	Configuration file for the viewer
\Viewer\Config\FilterMakroData.ini	Configuration file for the viewer
\Viewer\Config\FormPlacementData.ini	Configuration file for the viewer
\Viewer\Config\GlobalData.ini	Configuration file for the viewer
\Viewer\Config\Institution.ini	Configuration file for the viewer
\StudyXXX\	Default directory name for studies burned on the medium. "XXX" is a consecutive number, starting from 001. One medium can contain several of such directories

The following directory- and file structure is created on an encrypted medium by default:

Main directory of the medium	
\Data.Zip	Encrypted archive containing the data
\patunzip.exe	Decryption wizard guiding the user through the decryption and unpacking process and finally starting the viewer
\Autorun.inf	File for the automatic start of the decryption wizard
\Readme.txt	File with explanations of the medium content and of the use of the medium content
\TheLabel.png	Label file printed on the medium (Epson Primera)
\TheLabel.pdf	Label file printed on the medium (Rimage)
\Files\	Directory containing the 7-Zip decryption program
\Files\7z.exe	Program used by the decryption wizard for decryption
\Files\7z.dll	Library file for 7-Zip

14.2 Directory- and File Structure on the PC

The database files of the Hipax Robot Manager are located in the directory *\Hipax Robot Manager*. Default configuration:

- Windows XP: *C:\Documents and Settings\User\AppData\Hipax Robot Manager 3\Data*
- Windows Vista und 7: *C:\Users\User\AppData\Roaming\Hipax Robot Manager 3\Data*

In this directory the received DICOM files are stored temporarily, and the content of completed media is created.

The structure in the *\Hipax Robot Manager* directory is as follows:

\Hipax Robot Manager\	
\database\RobotManager.mdf	Database file for the Robot Manager
\database\RobotManager_log.ldf	Database log files for the Robot Manager
\ContentDefault	Directory with the content of a default medium
\ContentDefault\Content	Directory for the content files (empty)
\ContentDefault\Viewer	Directory of the viewer
\ContentEncryption	Directory containing the decryption assistant, the readme file and the autorun file for encrypted media
\ContentEncryption\Files	Directory containing the 7-Zip decryption program
\Data	Directory, where the incoming DICOM files and the composed media are stored



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