

# User Manual

## SCAMAX® Document Scanner

### Type: H12

*Version 1.2*



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## 1. Introduction

This manual contains information about the correct handling of SCAMAX® document scanners, type H12. This type includes the models 801, 811 and 821.

Additional models and special editions with a different configuration are possible.

All models are identical in design. If a specific model is not explicitly mentioned in this manual, the description covers all models alike. In order to exclude operating errors, before you start working with the SCAMAX® scanner, the pertinent safety precautions in this manual are to be observed.

This manual only describes the operation of SCAMAX® H12 type scanners and the integrated software interface. The operation of external scanning software and the scanning computers used with them from other manufacturers can be found in the respective manuals.

### 1.1. Safety instructions

The unit may only be connected to a grounded outlet.

Removing of housings using tools is **only** permitted for trained technicians and authorized experts. Under normal conditions the removing of housings isn't necessary.

Risk due to moving parts! Keep fingers and other body parts away.

#### **WARNING**

All paragraphs with **WARNING** indicate that injury to the operator may be possible in case of non compliance.

#### **CAUTION**

All paragraphs with **CAUTION** point out that non-observance can cause damage to the device under certain circumstances.

### 1.2. Specific Danger Spots

While running, moving or opening and closing the unit, specific danger spots can arise which are partially marked with warning decals and described in the following chapters. All figures are based on a unit with full expansion (*Dual Input Hopper and 2nd Output Hopper*), as certain danger spots are only existing with those modules.

#### **WARNING**

As an non-observance of the subsequent described danger spots can result in substantial injuries, unconditional attention should be paid to all related notes and handling instructions.

#### 1.2.1. Unmarked Danger Spots

##### 1.2.1.1. Covers

The scanner may only be operated with closed covers (*Kapitel 6.3./6.5.*). Magnetic switches at all relevant positions prevent from operation with opened covers. When reaching into the covered area, a small risk of pinching and grazing remains, due to exposed parts of the transport mechanism.

### 1.2.1.2. Dust Exposure

Dependent on age, condition and the previous storage of the scan documents the dust exposure can increase in the immediate vicinity of the scanner. If symptoms like tussive or mucosal irritations suddenly occur in coherence to such a material, an adequate ventilation should be ensured. In extreme cases a suitable inhalation protection must be used.

### 1.2.1.3. Dual Input Hopper

The Dual Input Hopper isn't blocked anymore and can be moved manually if the scanner is powered off. Because of that, the Dual Input Hopper must be dismantled or protected against unwanted shifting by appropriate means while moving or transporting the unit.

While running the scanner with a Dual Input Hopper the lateral movement range may not be blocked. Non-observance can result in crush or jam injuries.



During the lateral movement of the Dual Input Hopper in case of a reference move or an Input Tray switching, its center bridge moving along the housing edges. The distance between the center bridge and the edges is big enough to prevent jams. Nevertheless, a small risk remains at this point.

### 1.2.1.4. Input tray



Inside the Input Tray of the Paper Input laterally slotted holes are existing where the plate of the Input Tray is guided. The slight width of the slotted holes prevent jams. Nevertheless, a small risk remains at this point.

## 1.2.2. Marked Danger Spots

Areas with increased risk potential are identified with the following warning icons directly bonded to the unit.

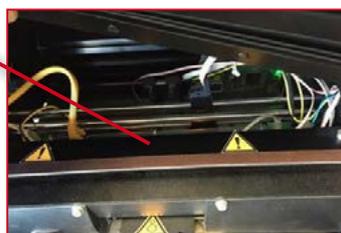
### 1.2.2.1. General Danger Spot



This warning icon indicates a general or not specified danger spot which can contain different possible causes of risk.



In the present case the warning icons are placed behind the Gaiters of the present Output Hoppers and should indicate that the scanner may not be driven with an open Gaiter, as rotating parts or crushing zones are unprotected and result in a higher risk of injuries.



### 1.2.2.2. Danger Spot Seize/Entangle



The beside warning icon indicates to the risk of seize or entangle, which is caused by the fast rotating Input Rollers or Paper Transport Rollers in case of this scanners. Beside the risk to grab with the fingers into the rotating rollers, it is offering a higher risk to entangle long hairs or similar parts in it.

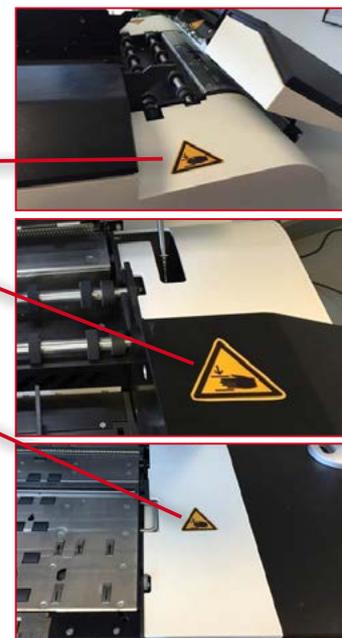
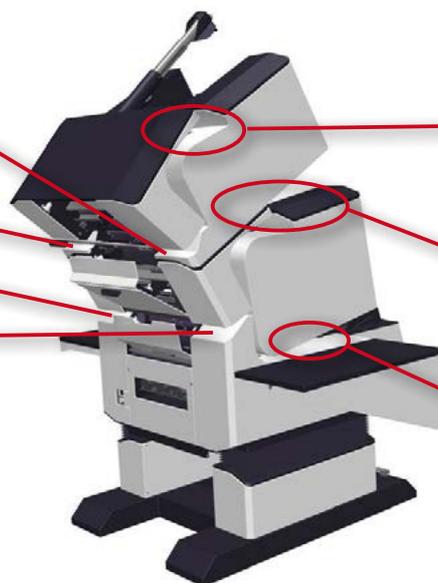
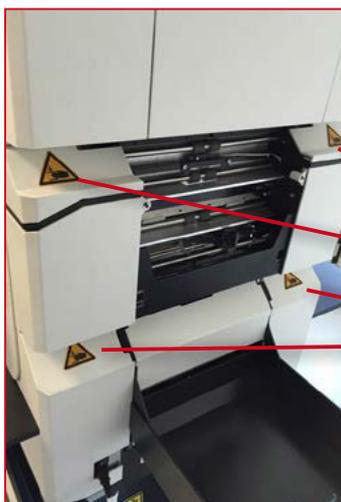


As the Transport Area is inside the scanner and the unit can't be driven in an open condition or with missing covers, only the Paper Input, means the Feeder Roller Assembly, and the front Transport Rollers of the Paper Output in the Output Hoppers are pointed as danger spots. While the Paper Transport is running, it is not allowed to grab into the moving areas and long parts (*hairs, chains, ties, etc.*) which can entangle into the rollers must kept away from it.

### 1.2.2.3. Danger Spot Crush/Jam 1



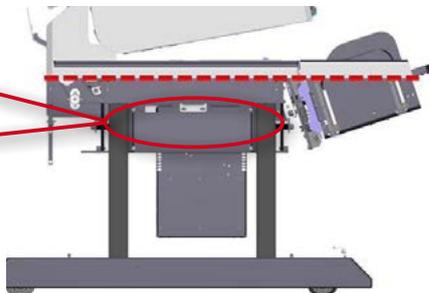
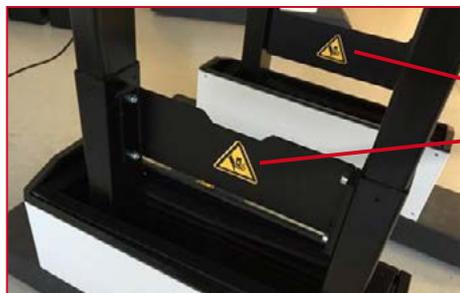
This warning icon indicates to the possible risk of crush or jam body parts while open or close the different scanner parts (*see chapter 6.*). While opening the scanner parts, the danger spots are located at the rear side of the scanner inside the wedge-shaped housing notches above the Rear Paper Output and between the two Output Hoppers. While closing the scanner parts, the areas between the surfaces which overlaps in closed condition are more relevant.



### 1.2.2.4. Danger Spot Crush/Jam 2



This warning icon indicates to the possible risk of crush or jam body parts if the Rack Gaiters has been released. In this case metal braces between the Lifting Columns are exposed, which are normally covered by this Gaiters. While lower the scanner by its Height Adjustment there will exist a higher risk of crush or shear off body parts.



### 1.2.2.5. Danger Spot Crush/Jam 3



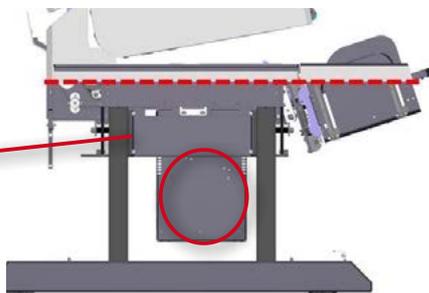
Also this warning icon is related to the Height Adjustment of the scanner and indicates to the possible risk of crush or jam the body while lower the scanner. Because of the heavy weight of the unit it's not allowed to lower the scanner while anybody is underneath the unit.



### 1.2.2.6. Danger Spot Electrical Voltage



The beside warning icon indicates to an area of electrical voltage. In the actual case it points to the housing of the Power Supply which is normally covered by the right hand Rack Gaiter. This housing may **only** be opened by a trained technician while the scanner is not connected to a power cord.



## 2. General description

The SCAMAX® H12 type scanners are designed for daily document processing in large volumes. They are among the most powerful and flexible high volume scanners that are offered on the market.

The integrated motorized height adjustment moves the console machine automatically to the defined working height of the user, and thus allows an optimized workplace ergonomics.

The internal proprietary scan client (*under development*) guarantees autonomous scanning using all available equipment functions at maximum speed. The resulting images are exported outside together with associated metadata in a defined manner. The available Twain™ driver allows for easy integration into any existing scanning, workflow and archiving system.

The scanning is done one or double sided, with a selectable optical resolution of actually 150, 200 and 300 dpi (*projected 75 to 600 dpi*).

The models are equipped with a Gigabit Ethernet port to export the scan data of the internal scan client and a USB 3.0 SuperSpeed port to control the scanner using Twain™ driver.

The scanners have a Single Input Hopper with a capacity of 1,000 sheets, making it possible to scan documents in batch mode. Optionally, the device can also be equipped with a Dual Input Hopper. This doubles the feeder capacity and enables continuous processing.

The integrated and controllable ultrasonic sensors reliably detect unintended double feeding, even with changing sheet thickness, and can react differently to it.

All settings for paper handling are made on the scanner. The documents are processed in unchanged sequence and generally also output in the same manner. The existing "Straight" Through Paper Pass with rear ejection and the possibility of extension with a second Output Hopper, paper output can also be controlled based on project. Sorting out of individual control sheets is also possible.

The sensors in the paper transport path, in the case of a paper jam, ensures that the transport is stopped in fractions of a second. Damage to the documents can be largely avoided.

By the capacitive touch screen, the configuration and operation of the scanner has become even easier. With today's conventional gesture control, projects and profiles can be easily set up. Unique icons, full text aids and full text error messages guarantee a safe and logical operation of the scanner.

The scanners are factory equipped with two imprinters. These print a line of text either on the front or back of documents, with freely selectable information such as date, time, project name and a serial number.

## 2.1. SCAMAX® upgrade concept 801/811/821

The H12 scanner type supports the flexible upgrade system developed by InoTec GmbH. Through this the document scanner can be optimally adapted to changing production volumes by upgrading the scanning speed.

By specifying time limits, also providing temporary upgrades to carry out tests or to intercept occurring performance peaks is possible.

The middle number in the model name stands for the enabled speed level. The model **801** thus constitutes the basic model with a throughput of up to **160 pages per minute (ppm)**, while the model **811**, the average speed maximum **220 ppm** and the model **821** provides the highest speed of maximum **300 ppm**.

All speed information relating to the scanning of A4 documents in landscape mode with a resolution of 200 or 300 dpi.

Additional models and special editions with a different configuration are possible.

## 2.2. Extensions/options

Similar to the speed, the H12 scanner type can optionally be extended in other areas. The previously known or planned extensions are listed below.

### 2.2.1. Dual Input Hopper

In order to enable continuous processing and thereby increase the efficiency of the scanning workstation, a Dual Input Hopper (*see chapter 2.3.1.2.*) can be used instead of a Single Input Hopper. This has two adjacent Input Trays with a capacity of 1,000 sheets each, which are alternately executed. In order for the scan operator to have the option to fill the empty Input Tray with documents, without having to interrupt the scanning process. The project-based configuration ability and the use of these Dual Input Hopper is described in chapter 5.3.3.

### 2.2.2. HighSpeed Stacker Arm

Since paper develops its own momentum during transport at high speed, a special stacking arm was developed for handling the so-called Highspeed Output Mode, which not only specifically intercepts ejected sheets, but also controls the lowering of the tray plate and registers jams in the Output Hopper to ensure an optimized and as trouble-free as possible paper output.

### 2.2.3. 2nd Output Hopper

To reflect on the benefits of the aforementioned Dual Input Hopper also in the output area, the H12 type can be equipped with a 2nd Output Hopper (*see chapter 2.3.1.2.*). The project-based configuration possibility and the use of this second shelf is described in the chapters 4.5.2.1.5. and 5.6.5.

### 2.2.4. Internal memory (*under development*)

### 2.2.5. Straight Through Paper Path Elevation

Should scan material be processed, by which the thickness significantly exceeds the bounds of a document, for example, closed envelopes with multiple sheets in Z-fold, the possibility exists with this option to increase the straight-through paper path by more than 60%.

## 2.3. Device Views



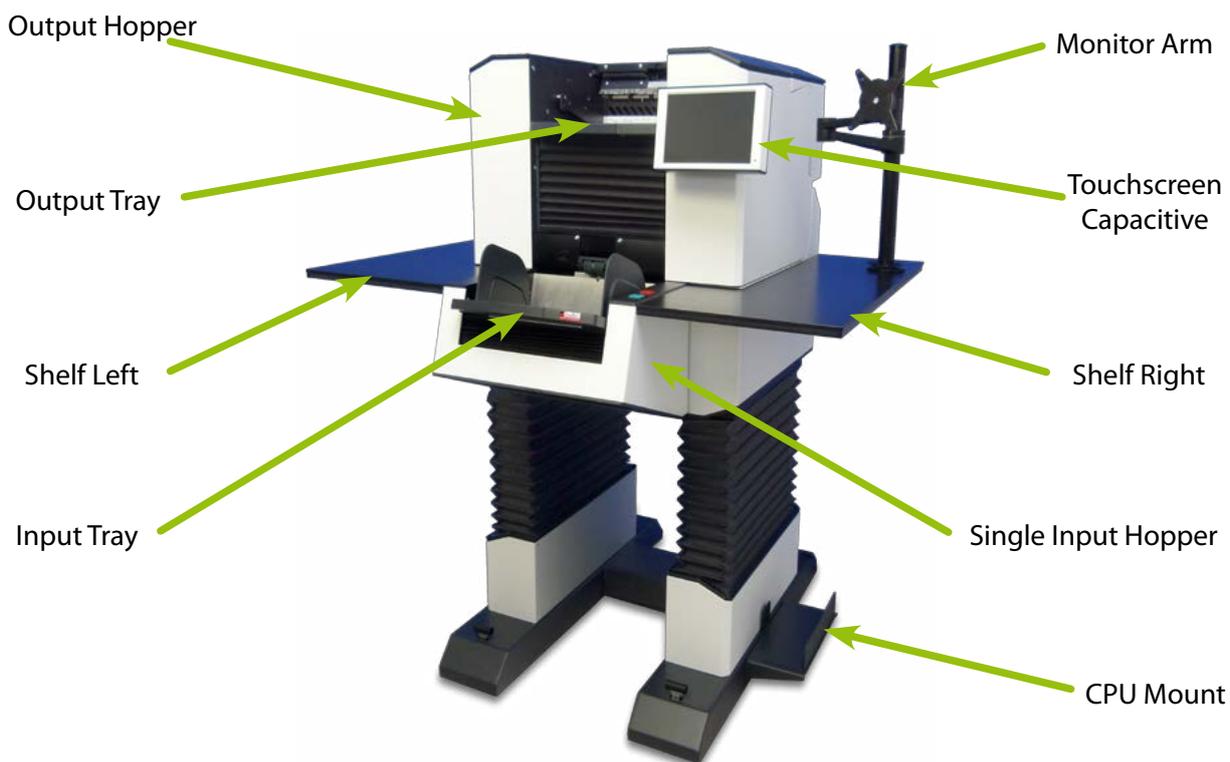
As illustrated in the figure on the left, the devices of the H12 type consist schematically of a Scanner Upper Section (*red area*) and a Scanner Lower Section (*green area*).

The location of the main components and function groups and their names are shown in the figures in the following chapters.

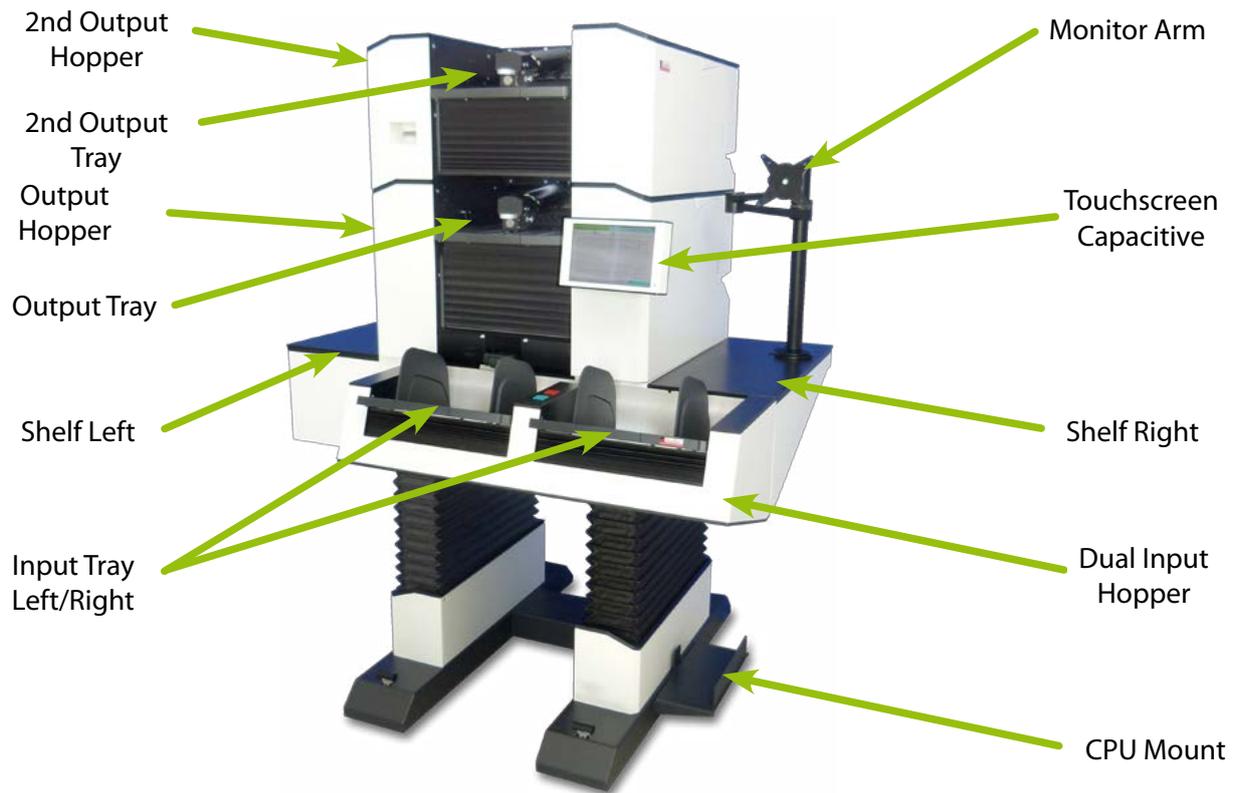
### 2.3.1. Front Views

As the devices of the H12 type can be extended by adding options, we show below the front view of the smallest as well as the full expansion stage.

#### 2.3.1.1. Basic Model



**2.3.1.2. Expansion Stage (Dual Input Hopper / 2nd Output Hopper)**



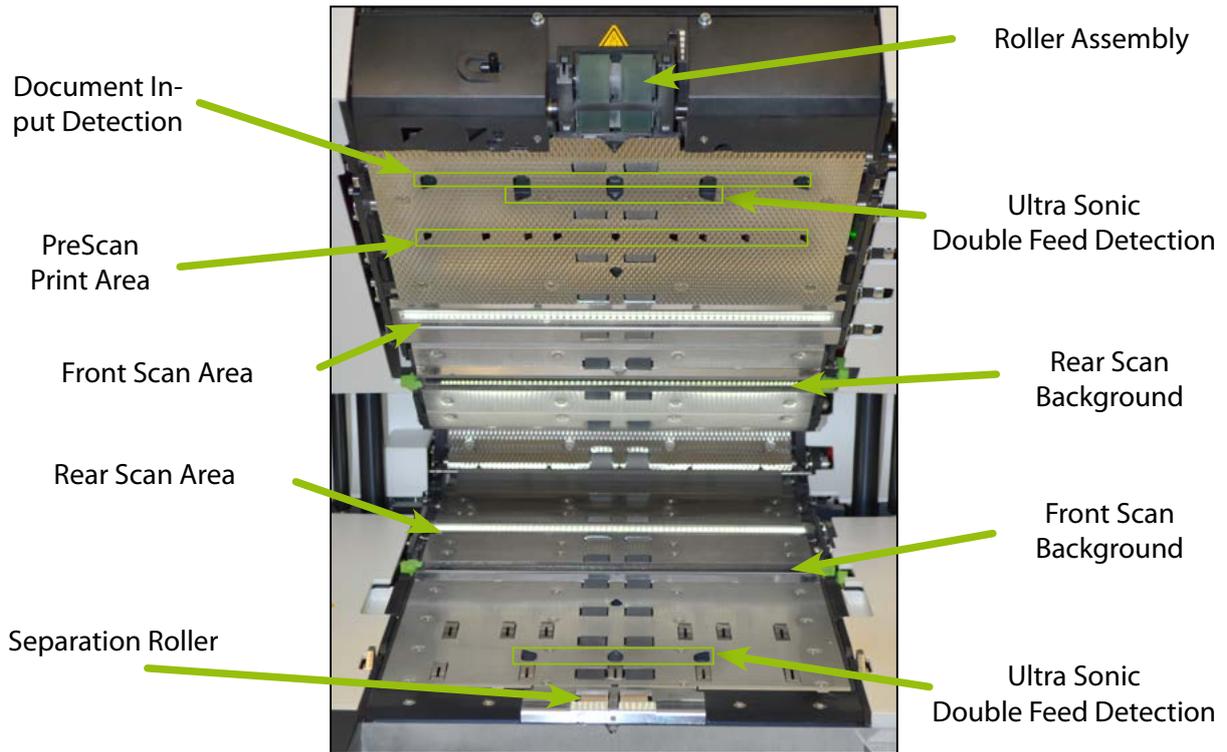
**2.3.2. Rear View**

Subsequently, the rear view of a model of the Full Expansion Stage.



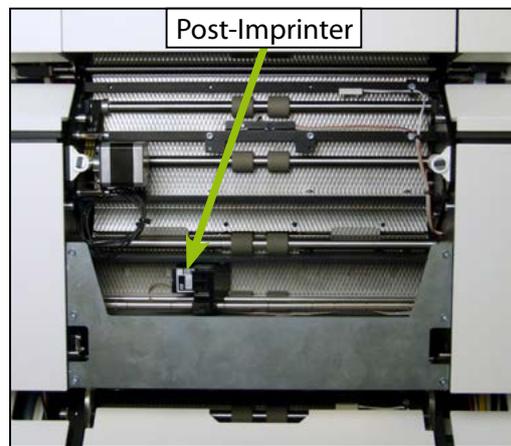
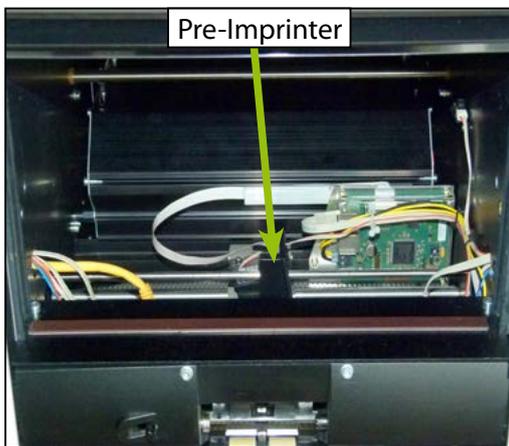
### 2.3.3. Interior Scan Plane

Below the image of the opened scanner with view of the Scan Plane.



### 2.3.4. View Imprinter

The images that follow clarify the positions of the two standard imprinters available



### 3. Startup Operation

SCAMAX® H12 type scanners are ergonomic console models that have been adapted in their design to meet the needs of the operator.

The low noise emission allows use in any normal office environment

#### 3.1. Scope of Delivery

The devices of this type are delivered in specially made wooden crates. If desired, the packaging will be taken back by InoTec GmbH after erecting the device. Transport without a corresponding transport box is not recommended, as this may cause damage to the device.

The exact scope of delivery is based on the ordered configuration of the scanner, but in addition to the actual device it always contains the following accessories:

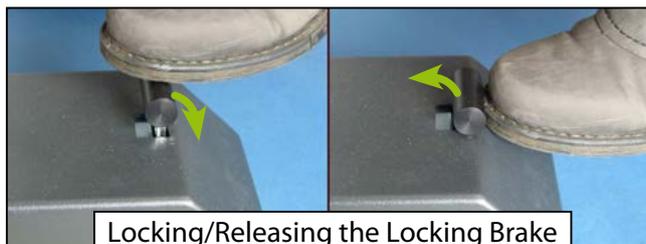
- Monitor Arm
- CPU Mount
- Power Cord
- Accessory Set H12 (Order No. e 129 8100) consisting of:
  - USB3 Device Cable 1800 .....e 125 7200
  - Input Roller Assembly V2 .....e 008 3015
  - Friction Lining Green (4 pcs.) .....e 007 3050
  - Friction Lining Green with Riffles (2 pcs.) .....e 007 3053
  - Friction Lining Red (2 pcs.) .....e 007 3055
  - Friction Lining Red with Riffles (2 pcs.) .....e 007 3057
  - Friction Lining White for Separation Roller (2 pcs.) .....e 007 3150
  - SCAMAX® Cleaning Solution for Optics .....e 901 0010
  - SCAMAX® SV1A Cleaning Solution for Rubber+Belts .....e 901 0025
  - Wipers White (8 pcs.) .....e 901 0001
  - Protective Gloves Size L (10 pcs.) .....e 901 0083
  - Protective Gloves Size XL (10 pcs.) .....e 901 0085
  - Dust Brush .....e 901 0100
  - SCAMAX® Tweezers 140 .....e 901 0050
  - Suction Cup (4 pcs.) .....e 129 2010
  - White Calibration Paper (10 Sheets) ..... s 910 0002
  - Ink Cartridge TIJ1.0 black (3 pcs.) ..... s 900 0170
  - Paper Guide Spring (10 pcs.) .....e 122 1310
  - USB Memory Stick .....e 920 0010

### 3.2. Setting Up the Device

Since the device was partially dismantled for shipment, the unpacking and setting up of the scanner is carried out **exclusively** by an **authorized expert** for this.

As work place a location shall be selected, at which the scanner is not exposed to direct sunlight, chemicals or vibration. The room temperature should not be below 10°C and not above 35°C. The relative humidity without condensation should be between 30% and 80%. The scanner should not be subjected to abrupt temperature or humidity changes.

Make sure that the scanner is on a flat, stable surface that is designed or has been prepared for the weight of the device (*up to 240 kg*) and that behind the device there remains enough space for the connection and opening of the unit.

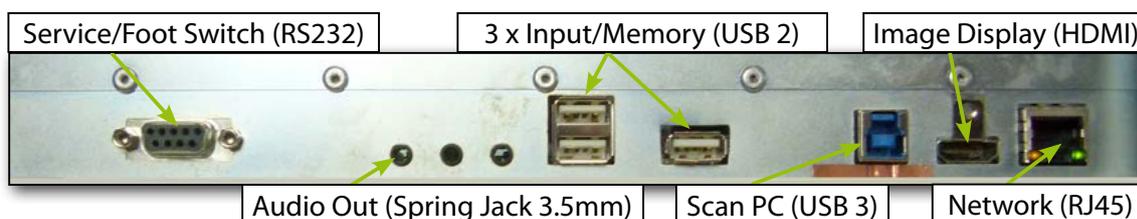


Locking/Releasing the Locking Brake

To secure the device against unintentional displacement, the two Locking Brakes can be locked on the front of the feet by applying a large force from the top by foot. To release press firmly from the front by foot.

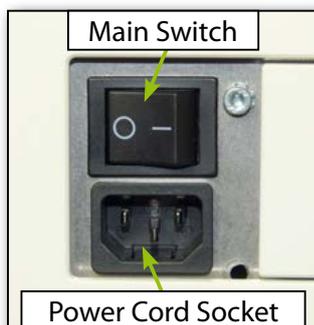
### 3.3. Connecting the Device

On the rear panel an Interface Bar with the following appearance is located next to the power connector, below the Rear Output Tray (see chapter 2.3.2.):



The following paragraphs discuss the existing external and internal connections of the device

#### 3.3.1. Power Supply / Main Switch



The Power Supply unit on the rear panel consists of power connector and Main Switch.

For connect, the device should be turned off, i.e. the Main Switch set to "0" and the supplied power cable connected to the earthed mains socket.

Via the Main Switch, the power supply is released to the scanner with "I". The scanner is then in the so-called energy saving mode.

Before turning off the Main Switch, make sure that any connected PC is not in an active scan or driver dialog, as this may cause system errors that require a restart of the PC

#### **CAUTION**

*It is essential to make sure that the used socket has a functioning protective conductor.*

### 3.3.2. Network Connection for Batch Transfer

If the internal scan client (*under development - see chapter 4.3.3.*) should be used, the export of scanned data can be made directly to a data server on the network. For this the unit is connected to the network via the existing RJ45 jack (*Fig. chapter 3.3.*). This interface is a gigabit interface at a speed of up to 1000 Mbit/s. In order to ensure a trouble-free connection, for the connection only high-quality, shielded Ethernet cable of category 5e or higher should be used.

The configuration of this network connection is described in detail in the Administrator Manual.

### 3.3.3. USB3 Port for Scan Jobs

To connect the scanner to an external scan station, a device socket type USB 3.0 with a data rate of up to 4000 Mbit/s is available on the Interface Bar (*Fig. chapter 3.3.*). This has to be connected via the supplied the USB3 device cable with the USB3 interface of the Scan PCs.

As usual with USB devices on Windows operating systems, **before** you connect the scanner to your scanning PC for the first time, a matching USB device driver must be available there (*see chapter 3.4.*).

### 3.3.4. USB Ports for Input Devices or Data Storage

For connecting commercial input devices (mouse / keyboard) or data storage (USB Stick / Flash Disk) a total of three USB2 inputs are available on the Interface Bar (*Fig. chapter 3.3.*).

The configuration of the connected data storage is described in detail in the Administrator Manual.

As input devices are used only for internal changes to the central system unit of the scanner, it is not examined further in this manual.

### 3.3.5. Connecting an Internal Data Storage (*under development*)

When using the internal scan-client (*under development - see chapter 4.3.3.*), some form of internal data storage has to be provided for temporary image data (prior to exporting batches).

### 3.3.6. Connecting the External Image Display (*optional*)

If the internal scan client (*under development - see chapter 4.3.3.*) is used, a separate monitor must be used to display the scanned documents. This is directly connected to the existing HDMI connection (*Fig. chapter 3.3.*). The mains adapter or the power cord of the monitor must be connected to a standard electrical socket outlet.



Unlike the Monitor Arm, the monitor itself is not in the standard package. Since the supplied Monitor Arm includes a mounting plate according to the Vesa MIS-D standard, the flat screen to be used must be equipped for a Vesa holder 75/100.

The professional installation of the monitor on the Monitor Arm can be derived from the accompanying installation instructions.

Of course this Monitor Arm can also be used to install the flat screen of an external scan station

### 3.4. Installation of Drivers *(under development)*

Please note that currently, driver installation can only be performed by InoTec expert staff.

#### 3.4.1. USB Device Driver

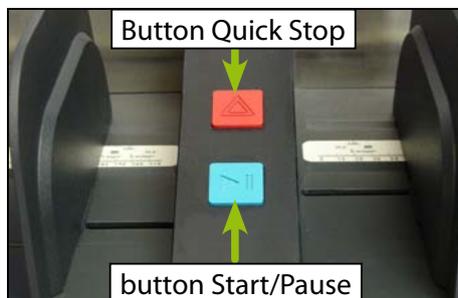
A separate installation of the USB3 device driver on the scan PC is not necessary under normal circumstances. This is transferred automatically when you install the Twain™ driver and adopted by the Windows operating system during the first connection of the scanner with the scan PC.

If the USB device driver is separately required for some reason, it can be downloaded from the download area of InoTec website.

#### 3.4.2. TWAIN™ Driver *(under development)*

Please note that they currently will be installed by InoTec expert staff.

### 3.5. Switching the Device On and Off / Initialization After Start



If the power supply to the scanner was enabled via the Main Switch (see chapter 3.3.1.), the device can be transformed from the energy saving mode to the active mode by pressing the green button **Start / Pause** ►||, which is centrally located on the Dual Input Hopper or on the right on the Single Input Hopper. The same behavior is generated by a scanning command of a connected scan software, when the corresponding option "Wake on USB" has been activated in the device settings.

During start up of the scanner, various modules are initialized. Here, the existing Input and Output Hoppers are moved to their reference points. The scanner display changes to the actual scan screen (see chapter 4.3.) after passing the initialization notifications. In the status area of the display in the top left, various initialization messages are displayed in yellow, and a green field when the scanner is ready.

#### **WARNING**

*Since the existing Input and Output Hoppers are abruptly moved to their reference points, it is important that no body parts are on their area of motion during the initialization of the scanner. Especially when using a Dual Input Hopper the lateral movement area must always be kept free. Failure to do so may result in clamping or impact injuries.*

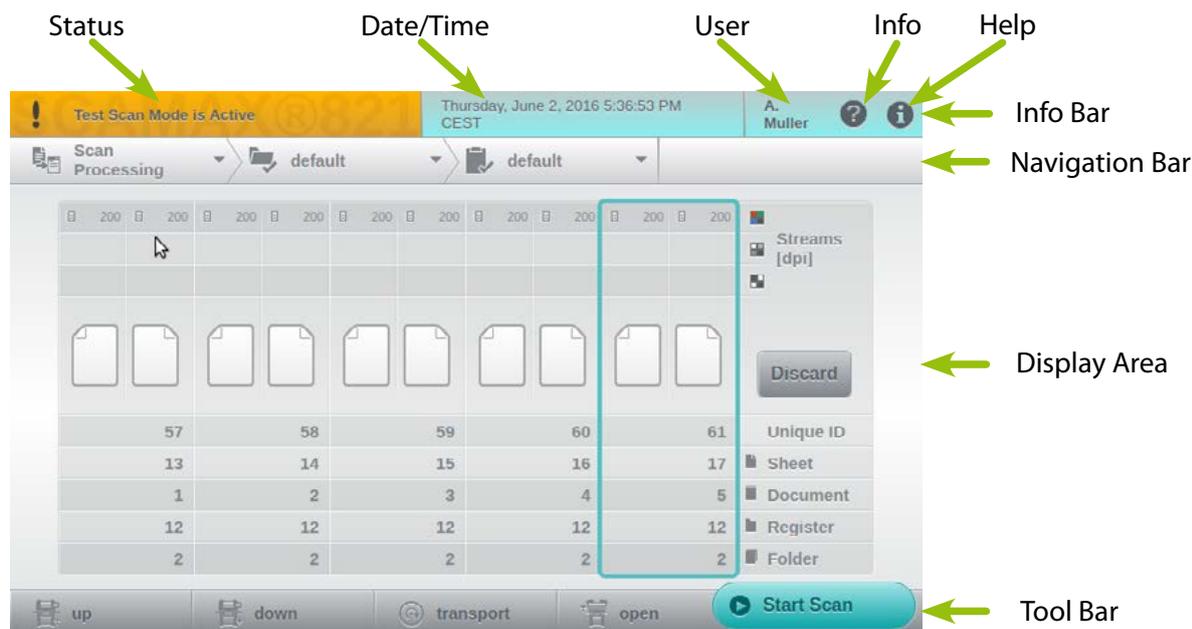
To return the scanner to the energy saving mode, the button **Quick Stop** ▲ must be pressed for at least 3 seconds. If the scanner is not used for a definable period of time (default 15 minutes), it automatically goes into energy saving mode.

## 4. Capacitive Touchscreen

The touchscreen is the central control element of the scanner. All necessary settings for the operation of the device and adjustments can be made with it. During the scanning operation, all essential information for the scanned documents and meaningful messages in case of failure with graphic details and help text for fault elimination (*see chapter 9.*) appear in real time.

### 4.1. Division of the Display Surface

In the following, the division of display area is displayed using the Scan screen as example. This division is used throughout all areas of the internal scanner software. The individual areas of the display are explained in more detail in the following subchapters.



#### 4.1.1. Status



The status clarifies already through its coloring, whether the scanner is active in operational condition (*green*) or a warning (*yellow*) or error (*red*). In addition, a unique icon and the current status or the warning or error message is displayed. In the case of warnings, even more can be displayed alternately. By tapping the colored

area in the warning or error care, the corresponding message window opens in the display area. In the background of the status, the current scanner model is displayed as a watermark

#### 4.1.2. Users (*under development*)

In this area of the currently logged in user is displayed. At the start of the scanner, a default user is automatically activated. The registration of a user is performed by touching this area.

### 4.1.3. Help

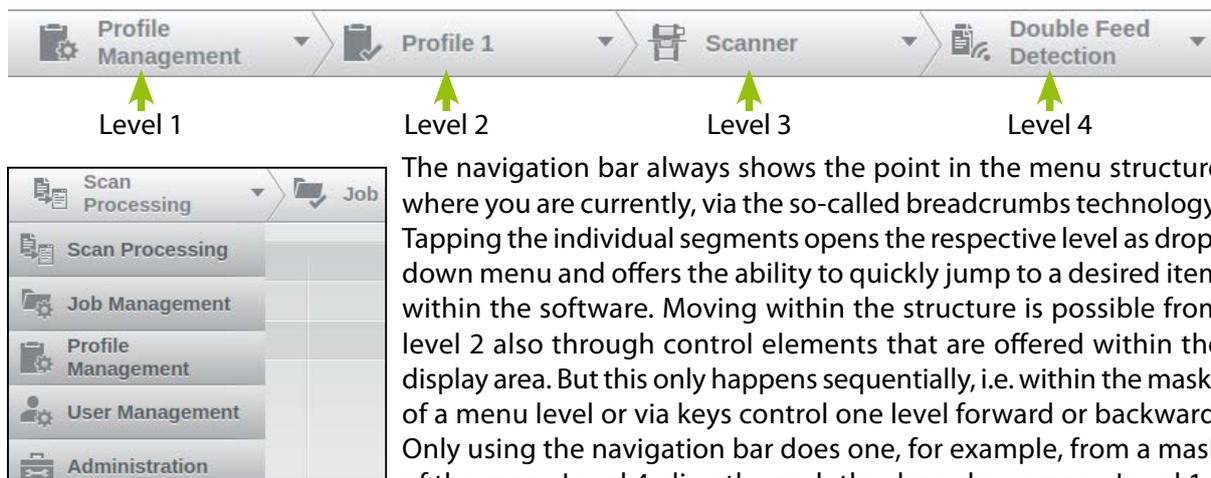
The round icon with the **?** in the center, opens upon tapping this User Manual in the display area of the touchscreen. If the icon is touched when displaying a warning or an error message, the chapter in the User Manual will be automatically displayed, indicating the necessary steps to remedy the warning or error.

### 4.1.4. Info



The round icon with the **i** in the center, opens upon tapping a window with information about the used scanner hardware, the firmware versions used, and other important details.

### 4.1.5. Navigation Bar



The navigation bar always shows the point in the menu structure where you are currently, via the so-called breadcrumbs technology. Tapping the individual segments opens the respective level as drop-down menu and offers the ability to quickly jump to a desired item within the software. Moving within the structure is possible from level 2 also through control elements that are offered within the display area. But this only happens sequentially, i.e. within the masks of a menu level or via keys control one level forward or backward. Only using the navigation bar does one, for example, from a mask of the menu Level 4, directly reach the drop-down menu Level 1.

### 4.1.6. Display Area

This area is used to display the internal Scan screen, during Scan Processing, and the graphical configuration elements of various setting menus. The various controls that are available within the program elements are explained in detail in the corresponding chapters. When displaying a warning or an error message window, this area is completely covered, while the areas above and below remain visible for orientation and control.

### 4.1.7. Tool Bar

The lower area of the touchscreen is reserved for displaying control keys. This may vary depending on the active program item, but they are partially configurable. Various possibilities are described in the following chapters.

## 4.2. Operation Methods

The touchscreen of the type H12 supports the so-called capacitive functional principle. Unlike resistive displays of the previous SCAMAX® scanner models, it must no longer be put under pressure for operation. A merely contact with the touchscreen interface is sufficient. Furthermore, in addition to the usual tap-on function, also the so-called wiping gestures are supported.

For operation, only the finger or a specially designated operator pen, often called stylus, should be used. Other objects, e.g. ballpoint pen will not function normally and may scratch the surface of the touchscreen.

To operate the software, besides unique keys, especially in the configuration menu, the following special controls are available:

-  Fields that show a triangle with tip pointing downwards on the right side, open a so-called drop-down list upon tapping (see *Navigation Bar - chapter 4.1.5*.)
-  If a field has these three points on the right side, a submenu is called upon tapping, which contains more related configuration objects.
-  If a menu bar has this gray box on the left side, the respective function can be activated by tapping so. Also several in successions are possible.
-  Unlike in this round field, which is also displayed to the left of the menu bar. This is a so-called option field, which is used to select the desired option from a group of possibilities. There are at least two option fields in the same group, whereby only one option field in the group can be selected.



A field with the adjacently shown appearance offers three different control options. While tapping the plus or minus key, change the associated value by 1, a tap in the green or gray value range, reduces or increases them by 10. Tapping and lateral displacement of the slider allows a dynamic change of the value.



Upon tapping, such input fields, depending on the assigned function, open either a keypad or a numerical field (see *below*), in individual cases even a path or file selection mask.



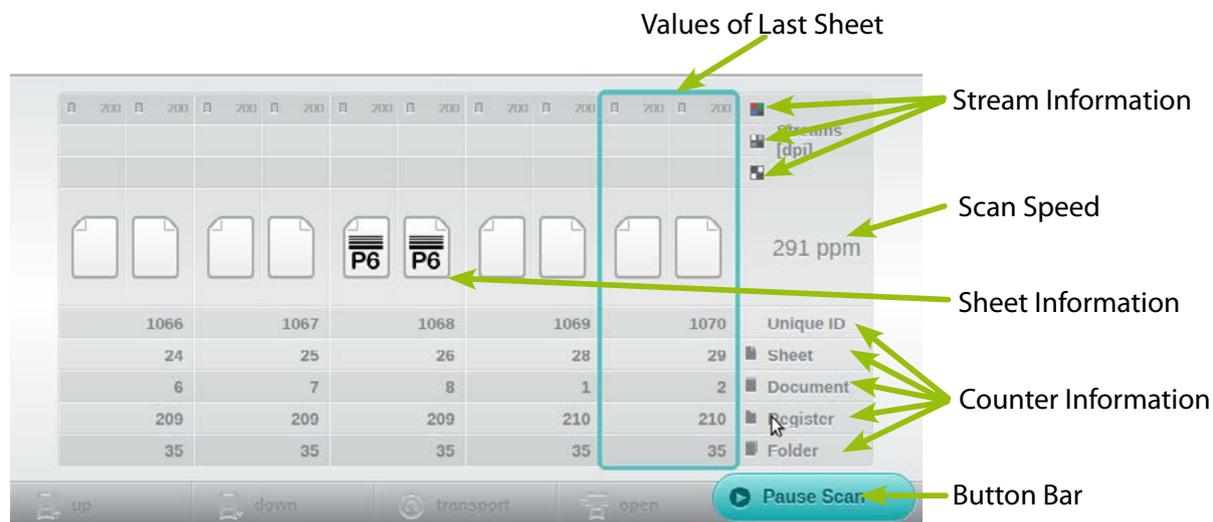
Unlike the numerical pad, the keypad contains in addition to the actual character keys and the input field, in some cases a range to choose from the available variables and attributes in order to integrate them in the input box. Whenever this is the case, we will add a note to this effect, in the respective chapter.

-  If one of these marks is displayed at the margin of the display area, by tapping on the marks or by laterally wiping over the display area, you switch to the last or next mask of the same menu level. If a mask or list is longer than the display area, the view can be moved by wiping upwards and downwards.

### 4.3. Scan Processing

Immediately after turning on the scanner or by selecting the item **Scan Processing** in the navigation bar leads to the Scan screen. This view is always displayed during active scanning, regardless of whether you work on the internal scan client or any scanning software on a connected Scan PC.

#### 4.3.1. Division of Scan Screen



The view of the scan screen in the display area of the touchscreen is divided into rows and columns. Per scanned sheet, the rows of a column are filled with information. These values shift column by column to the left during the scanning process, so that the values of the last scanned sheet are in the right, turquoise framed column. The current scan speed is shown in pages per minute on the right edge, at the level of the sheet information line, during a scanning process.

##### 4.3.1.1. Stream Information

The top three rows of each column are used for displaying Stream Information. The images of different color depths are designated this way. The icon to the right of the line, featuring the particular color depth. In the top row for 24-Bit color images, below 8-Bit gray images and the third line for 1-Bit B/W images.

The columns in these three lines are again divided, as on the left half Stream Information are displayed for the front sides and on the right half for the back sides. Besides giving the respective resolution in dpi, it is marked by symbols that a complete image and/or a clipping was generated in the respective color depth. Empty fields mean that no image was generated in this color depth.

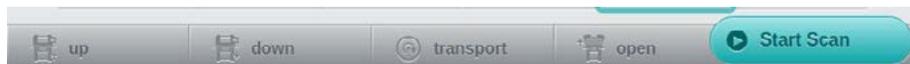
##### 4.3.1.2. Document Information

The broad line below the Stream Information is used to display the sheet information. Also in this line the column is halved and the icons shown here represent the scanned front and back side. If a page icon is provided with a red cross, it was marked for deletion by the blank page detection (see chapter 4.5.1.4.5.), or some other function. If a patch code is detected on a sheet, both document icons are provided with the symbol (left) and the indication of the detected patch codes (PT, P2, P3, P1, P4, P6).

### 4.3.1.3. Counter Information

The lower 5 lines are used to indicate the available counters. The top counter is always the so-called sequential ID, means the unchangeable, continuing scanner counter. The four lines below, include the four available counters of the system. How these counters are named or used depends on the respective configuration (see chapter 4.5.4.).

### 4.3.1.4. Button Bar



Whenever the scanner is ready to scan, a rounded turquoise button will appear in the bottom right corner of the active scanning window. Use this button to start or stop scanning (see chapter 5.4.1.).

The four Quick-Access Buttons at the bottom edge of the scanning window may be assigned with any of the function keys. This assignment is part of the scanning profile and is defined in the Control settings Section (see chapter 4.5.3.3.).

Touching the Button Bar and then dragging it upwards will reveal all of the available function keys. This is known as the function key window.



Some of the functions keys feature a colored vertical bar, to the left of their icon. This is an indicator which reflects their current status (e.g. green=active, red=inactive). All functions keys, their actions and their status indicators are documented in a separate section in the chapter

on Profile Configuration (see chapter 4.5.3.3.2.). During scanning, the four Quick-Access Buttons as well as all function keys available through the Button Bar may be used directly from here, without having to switch to another menu screen.

#### 4.3.1.4.1. Modifying Quick-Access Buttons



The assignment of Quick-Access buttons may be easily changed. After opening the function key window, press additional button **edit QA-Buttons**, right beside



the Quick-Access buttons. The labelling of this button will change to **end edit** and a green indicator will appear. All function keys below the quick-access bar will be highlighted in green and the **remove QA** button will become active.



You may now re-assign any of the Quick-Access buttons by touching and then dragging the desired function key onto one of the four quick-access positions. As soon as you have selected one of

the function keys, the green highlighting will move to the Quick-Access buttons, identifying them as targets. When dragging a function key across, the function key's icon will be displayed next to your fingertip. Releasing a function key over one of the quick-access positions will replace and update that button's assignment, accordingly. Dragging the **remove QA** button onto one of the quick-access positions will remove any assignment from that position, leaving it empty and without function. Tapping the **end edit** button will end the modification mode.

Any new key assignments will remain in effect until a different scanning profile is selected or until the scanning software is stopped or restarted. If you are using the internal scan-client (*under development*) and provided the currently logged-on user has sufficient user-rights, then all new key assignments will be stored in the appropriate section of the current Scanning Profile (*see chapter 4.5.3.3.2.*)

### 4.3.2. Job and Profile Selection



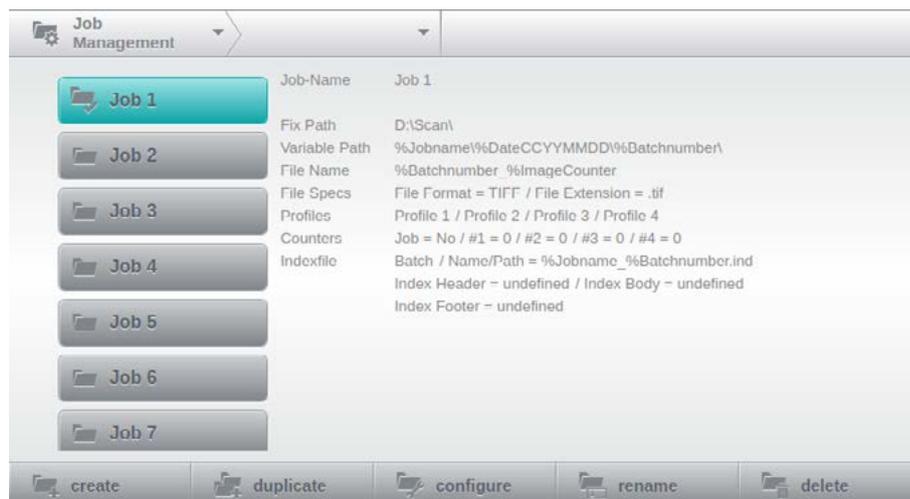
If work has to be done via the internal Scan Solution (*under development*), a pre-defined Scan Job (*see chapter 4.4.*) and the desired Scan Profile (*see chapter 4.5.*) are to be selected in the navigation bar.

If the scanner is controlled by a scanning software on a connected PC, all the necessary settings are transmitted to the scanner via the used driver interface. In

the Scan screen, the term **Remote Profile** appears in the navigation bar beside the item **Scan Processing** instead of the job and profile selection and the navigation bar is completely grayed out.

### 4.3.3. Working with the Internal Scan Solution (*under development*)

### 4.4. Job Management *(under development)*

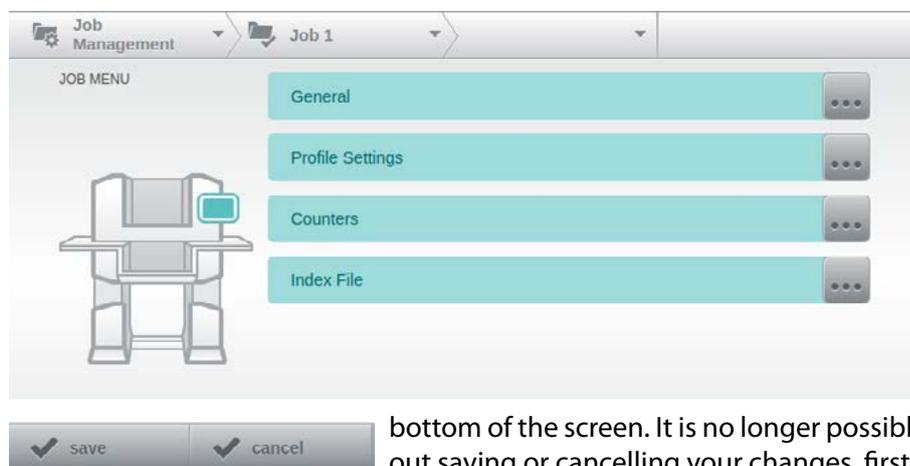


Via the **Job Management**, the used scan jobs of the internal scan client will be defined and managed.

These job definitions contain image settings such as type, format, name, storage location. They also define which scan profiles may be used with each of the job definitions.

Selecting **Job Management** from the navigation bar will display an alphabetically sorted list of all available job definitions, down and along the left side of the display area. Tapping on one of the buttons will select this job definition for editing. The button pressed will be highlighted turquoise and the right side of the display area will show an overview of this job's current settings. Alternatively, a job definition may also be selected from a drop-down list, in the second segment of the navigation bar.

Job definitions may be edited with any of the five buttons shown along the bottom edge of the display area: The **create** button will add a new (*fresh*) job definition to the list, simply enter the desired name and click OK. In contrast, the **duplicate** button will copy the currently selected job definition (*including all of its settings*) and then prompt you for a suitable name. Job names may later be changed using **rename**. Job definitions can be permanently removed with the **delete** button.

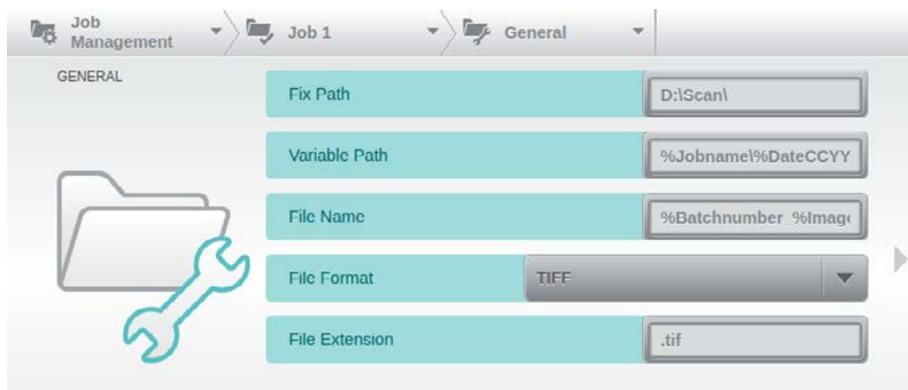


Tapping the **configure** button will open a new menu screen called job menu. All job settings can be accessed here, through one of four sub menus.

As soon as any one setting is modified, additional buttons **save** and **cancel** will appear at the

bottom of the screen. It is no longer possible to leave this menu without saving or cancelling your changes, first i.

### 4.4.1. General (under development)



After selecting the item **General** in the Job menu or the navigation bar, the adjacent mask opens in the display area that allows all the necessary settings for file name, path and format.

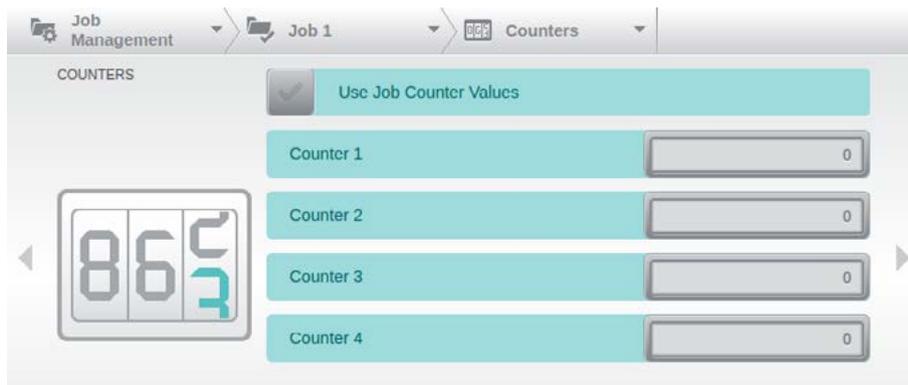
### 4.4.2. Profile Settings



Via the menu item **Profile Settings** all existing scan profiles (see chapter 4.5.) in the display area are listed and can be enabled by selection for use in the current job. The field **Default Profile**, at the end of the mask allows you to select the profile, which is loaded at the start of

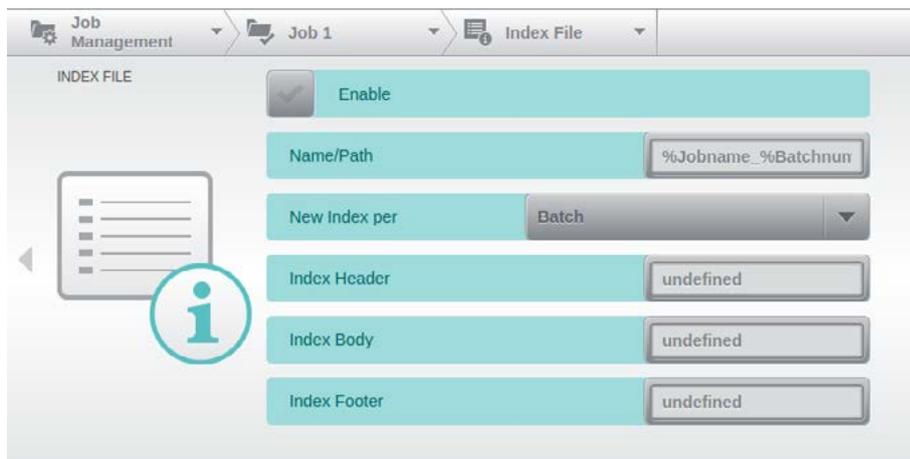
a new stack for this job and it shows all the previously selected scan profiles, along with an entry for the last profile in use, in a list.

### 4.4.3. Counters (under development)



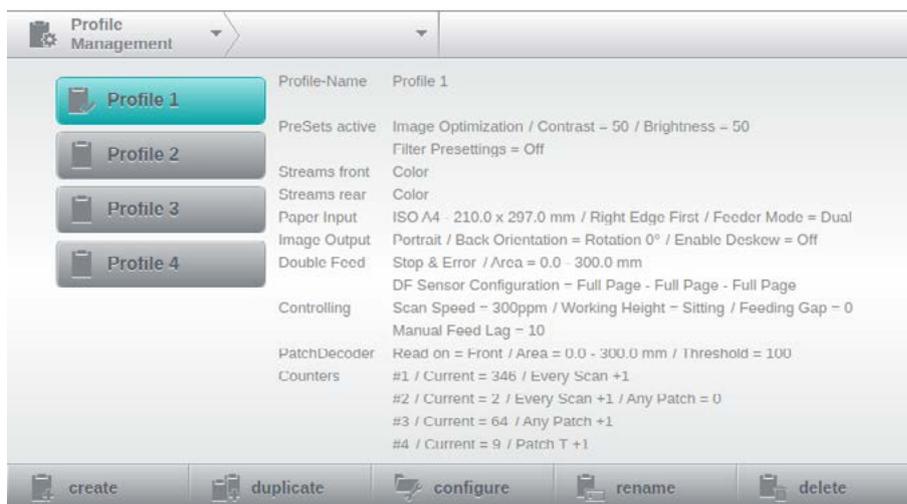
This menu item allows you to adjust the current levels of the four available counters on a numerical field. The importance of the counter and in what way they are used, is defined in the individual Scan Profiles (see chapter 4.5.4.).

**4.4.4. Index File** *(under development)*



If, in addition to the generated image files also index data be stored, this can be defined via the menu item ***Index File***.

### 4.5. Profile Management

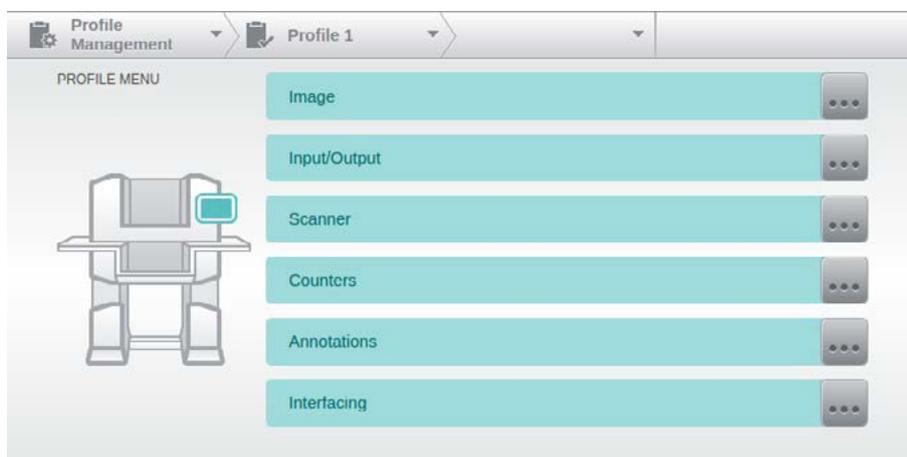


The **Profile Management** allows you to create and manage scan profiles, which contain all the images, paper and scanner settings that are needed for an efficient, project-based scan processing.

When you select the same point in the navigation bar, one gets a key list of available scan profiles in alphanumeric order in the display area

on the left edge. The scan profile currently in use is highlighted turquoise. By tapping the appropriate key the profile you want to edit is selected. In the display area of the list, an overview of the settings of the selected Scan Profile is displayed. The list of profiles can also be viewed via the second segment of the navigation bar and the profile can be selected there.

For editing the scan profiles, five keys are available in the tool bar. Whilst the **create** key generates a new profile based on default values, after entering a profile name into a keypad and confirming with **OK**, a copy of the previously selected profile is created with the key **duplicate**. Again here, a keypad opens and change of the name is prompted. Via the key **rename**, the name of the previously selected profile can be changed and with the key **delete** this profile is permanently deleted.



The key **configure** will open a profile menu with access to all available profile settings, grouped into logical functional groups.

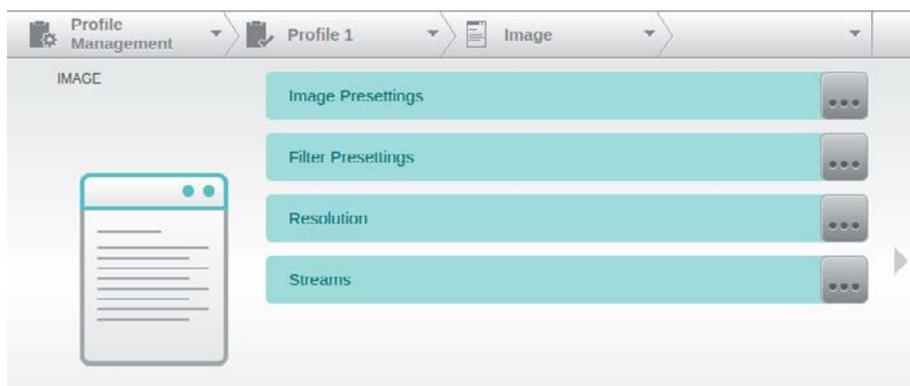
Since there is no dedicated dialog for H12 scanner settings available on the PC, this menu will also be automatically opened whenever the attached scan-

software attempts to access scanner settings. In this case, **Remote Profile** is selected as the active profile.



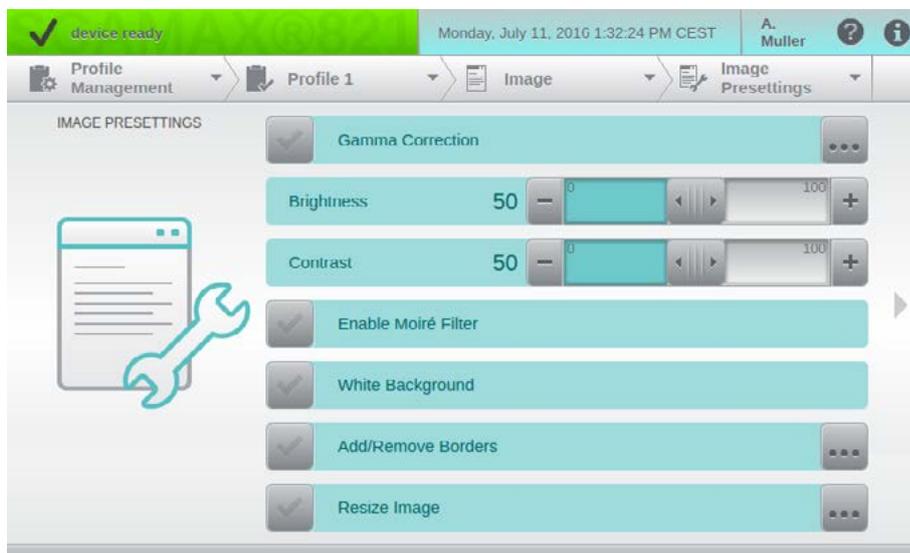
During configuration, from the first change of a setting the keys **save** and **cancel** are displayed in the toolbar and selecting the first two levels in the navigation bar is disabled. Exiting the configuration is therefore possible only after backup or discarding the change.

### 4.5.1. Image



In the menu **Image**, all profile settings that defines the creation of digital images, can be selected via four sub-menus. Selecting one of the menu items, branches directly to the associated setting masks, which are explained in detail below.

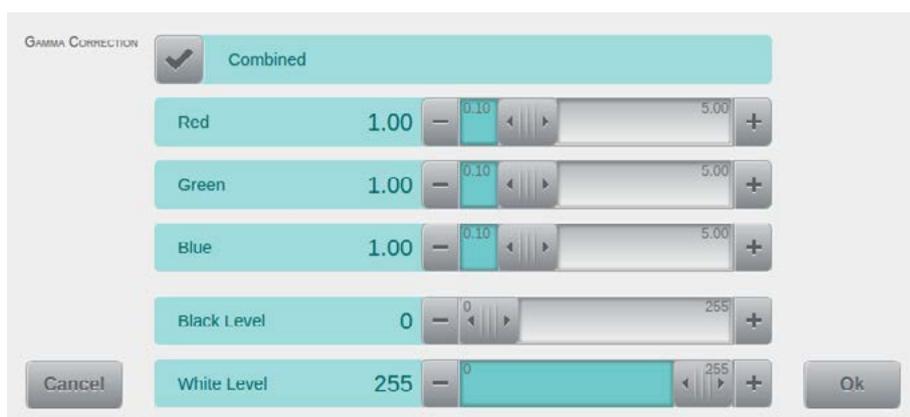
#### 4.5.1.1. Image Presettings



The setting group **Image Presettings** contains image influencing parameters that are defined centrally and significant for all streams and sides.

The mask pictured here is graphically edited, because it exceeds the display area of the touchscreen.

##### 4.5.1.1.1. Gamma Correction



Via **Gamma Correction** the brightness of the three color channels used, and the gray channel can be adjusted.

In the color channels **Red**, **Green**, and **Blue** (RGB), the default value is 1.0 and can be increased to 5 in steps of 1/10th. The activated option field **Combined**

provides simultaneous adjustment of all color channels as soon as one of the three values is changed.

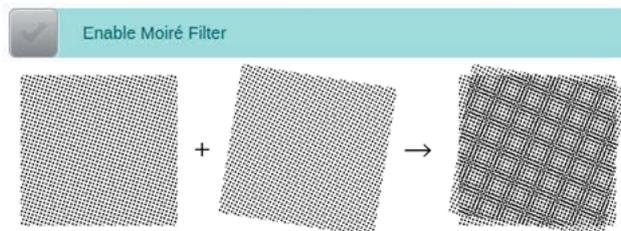
The Gray channel is divided into 256 levels and influenced by the two lower sliders of **Black Level** and **White Level**. Whilst the **Black Level** has a default value of 0 and the gray areas are darkened by its increase, the **White Level** is 255 in default cases and provides the brightening of gray zones by its reduction.

4.5.1.1.2. Brightness / Contrast (*under development*)



Setup of the **Brightness** and **Contrast** of images in a linear fashion

4.5.1.1.3. Enable Moiré Filter (*under development*)



By enabling the Moiré filter an correspondent effect can be decimated, which can occur while scanning raster artworks when printing and scanning grid interfere with each other.

4.5.1.1.4. White Background



Selecting White Background will inform the profile of the fact that the Scan Background has been switched to white (*see chapter 5.5.1*). As a result, the profile will internally adjust the scanner's document recognition and several other imaging functions, accordingly.

4.5.1.1.5. Add/Remove Borders



Use this menu item to add borders of specific width, to all scanned images. Selected areas may be removed from images, by specifying negative border values.



Selected areas may be removed from images, by specifying negative border values.

**Switch Right and Left on Back** will automatically swap the values for right and left border size, on all reverse sides of scanned document sheets.

Tapping the **Color** button will open an additional sub menu, as shown. The color used for filling additional border areas may be adjusted with three sliders for red, green, blue.



**Please note!** When removing border areas, make sure to not truncate any image content.

#### 4.5.1.1.6. Resize Image



Whereas the previous option will selectively enlarge or reduce images along their edges, **Resize Image** will crop or expand images regardless of their original format. You may specify target **height** and **width** with a resolution of a tenth of a mm.

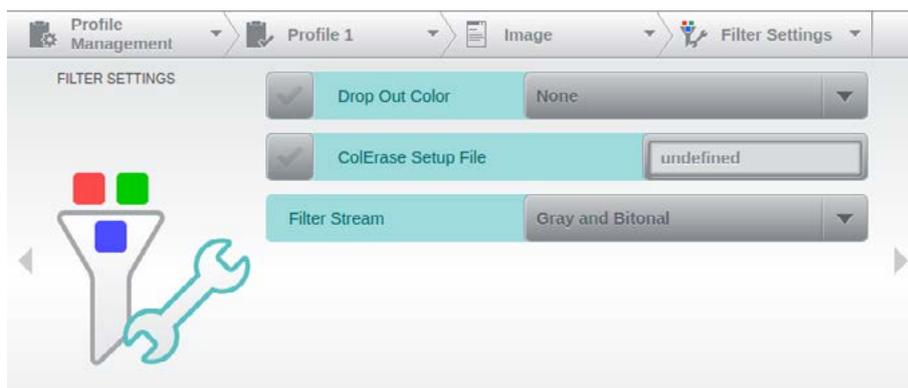
If the original image is smaller than the image area specified here, then the resulting empty area will be filled with the color specified. Tapping the **Color** button will open an additional sub menu for selecting the desired fill color (*see last chapter*).

If the original image is larger than the image area specified here, the image will first be centered and then evenly trimmed, according to the width and height settings.

#### **Please note!**

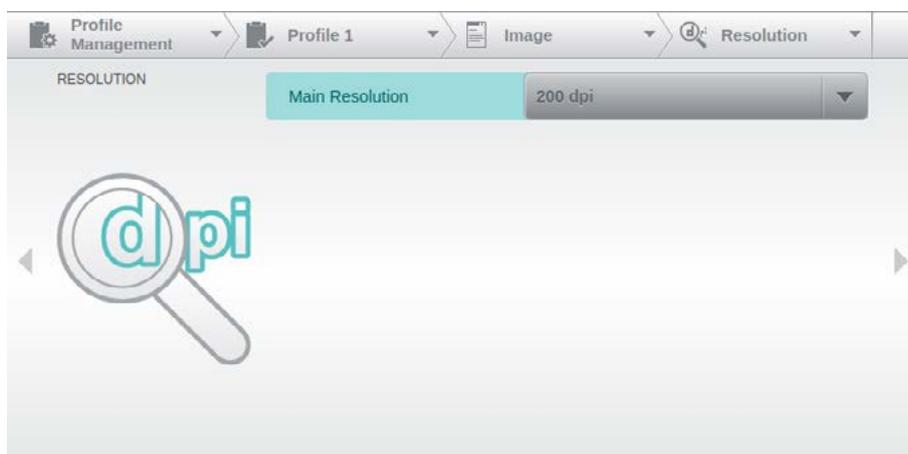
Image content may be irrevocably lost if the image is larger than the width and/or height specified here.

#### 4.5.1.2. Filter Presettings (*under development*)



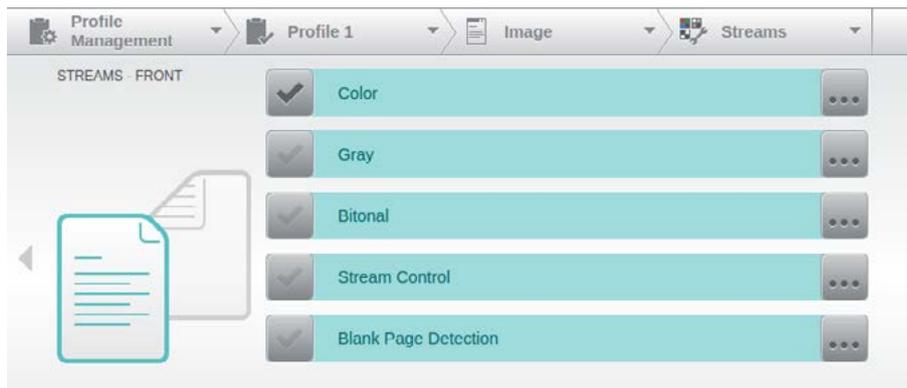
This menu contains the two available options for color drop out, or color filtering. Both options can be used independently or in combination.

#### 4.5.1.3. Resolution



In this mask, the **Main Resolution** field shows the resolution which is basically valid for all the images, unless no different resolutions are selected in different stream settings (*following chapters*). Possible resolutions are currently 150, 200 and 300 dpi.

### 4.5.1.4. Streams Front/Back



Using the menu of the stream settings it is determined which images are created during a scanning operation and which settings will be used therefore.

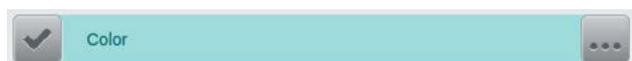
Unlike the other screens, the entry streams is used only once in the navigation menu, al-



though settings are available for the front and back side. The change between the two masks is done by tapping on the page icons on the left side. Since all setting screens for front and back side are the same, only the masks of the front are explained and shown in the following chapters.

Images are only stored for streams that are enabled on the left side in these masks. If no stream is activated for the back side, it is called simplex scan. If more than one stream is enabled on one side, it is called dual- or multi-stream. With the fields on the right side one comes to the respective settings.

#### 4.5.1.4.1. Color Settings



This menu item will turn the color stream on or off. Configure the properties of color images with the following three settings pages:



**General:** The **Copy to Back** option will apply all settings made for front color images to the reverse side. A similar option is available when configuring back color images, this option is

labelled **Copy to Front** and will do the exact opposite. If you require identical front and back settings, then checking this option will eliminate the need to configure them twice.

Use the drop-down selector for **Resolution** to set a specific image resolution, for this stream. The default setting, **Main Resolution**, will apply whatever has been specified as main resolution, elsewhere (see chapter 4.5.1.3.). Please note that this feature is still under development.



**Compression:** Use the drop-down selector for Compression to switch between JPEG-compressed (*default*) and uncompressed color image output.

When selecting compressed transmission, you may also specify the desired **JPEG Quality**. The default value (75) will result in high quality JPEG images.

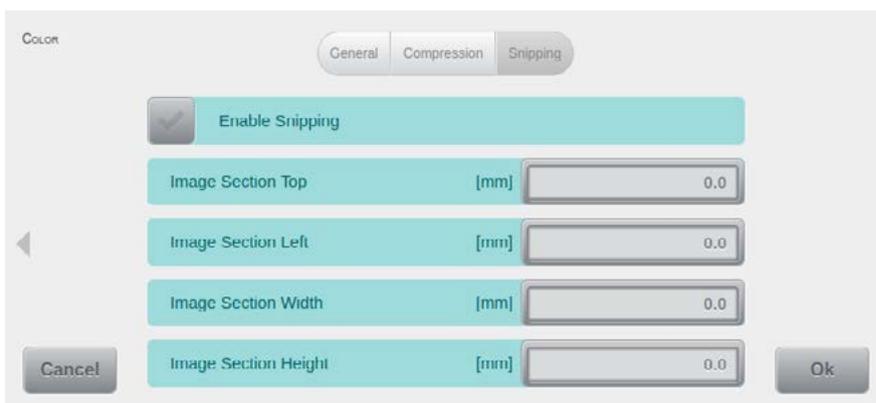
Please note that increasing or reducing this value will not only affect picture quality, but also increase and reduce image file size..



**Subsampling** is another JPEG-related setting. To achieve higher compression, this setting will enforce different sampling rates for chrominance (*color*) and luminance (*brightness*) information. For detailed information about the three selections offered here, please refer to the pertinent literature on JPEG compression.



Enabling the ICC-Profile option (*under development*) will attach the scanner's ICC-profile to the stream of compressed color images. More information to come when this feature is available.



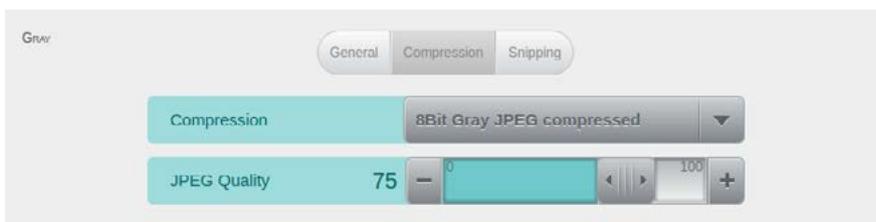
**Snipping:** Enabling the **Snipping** feature (*under development*) will limit transmission to a specific area within the color image. **Image Section Top**, **Image Section Left**, **Image Section Width**, **Image Section Height** define the area to be used.

#### 4.5.1.4.2. Gray Settings



The creation of the gray image is activated via this menu item and configured within its three setting masks.

The settings pages for grayscale images are largely identical to those for color images (*see chapter 4.5.1.4.1.*). Merely the **Compression** page is different, only two controls are available here:



The drop-selector for switching between JPEG-compressed (*default*) and uncompressed grayscale image output, and a slider for **JPEG Quality** (*default value: 75*). Please note that the **Resolution** (*on page General*) and **Snipping** features are still under development for grayscale images, too

#### 4.5.1.4.3. Bitonal Settings (*under development*)



The creation of bitonal image is activated via this menu item and configured within its setting three masks.



The **General** and **Snipping** pages for bitonal images are largely identical to those for color images (*see chapter 4.5.1.4.1.*). However, an additional control for image **Compression** is

available on the **General** settings page. Use this control to switch between CCITT G4 compression (*default*) and no compression. The **Compression** settings page has been completely replaced with a page for **Binarization**. Please note that the **Resolution** (*page General*) and **Snipping** features are still under development for bitonal images, too



**Binarization:** All controls on this page are required to fully parameterize the dynamic binarization function. However, the three settings for **Brightness**, **Contrast** and **Outlining** having the biggest impact on the underlying algorithm. Generally speaking, **Brightness** refers to a threshold value (*above which*

*a pixel is considered white*), whereas **Contrast** refers to the weighting of background versus foreground information. **Outlining** will differentiate between filled areas and the borders surrounding them.

Below, please find a more detailed description of each of these settings :



The **Brightness** setting will determine above which grayscale level (0 – 255) a pixel is no longer considered black, but white. The default value of 200 is an indication that usually, even comparatively high grayscale values should be interpreted as black.

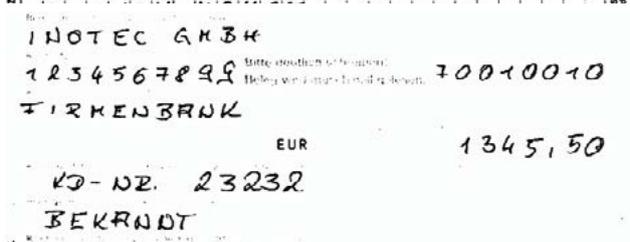


Consider the grayscale image at the left, which will serve us as an example, here.

You will notice that in the resulting bitonal image (*below*), the background has been successfully removed from the form when applying the default Brightness threshold of 200. Appropriately adjusting the two other settings has resulted in all gray areas to be converted into (*predominantly*) white areas.



After reducing the **Brightness** value to 150, only notably lower grayscale values are considered and returned as black pixels, after binarization.



Finally, when further reducing the **Brightness** value to 100, only the very lowest grayscale levels survive (*as black pixels*). The form's background information now has effectively disappeared.



The **Contrast** setting will change the weighting of image background (*lighter information*) versus image foreground (*darker information*). The range for this setting (*again*) is 0 – 255, with the setting's effect reversing at midpoint: For **Contrast** settings from 0 to 128, the image background will be increasingly attenuated, in relation to the image foreground. Beyond midpoint, the image background will slowly reappear, with the darker shades of gray being reproduced progressively thinner.

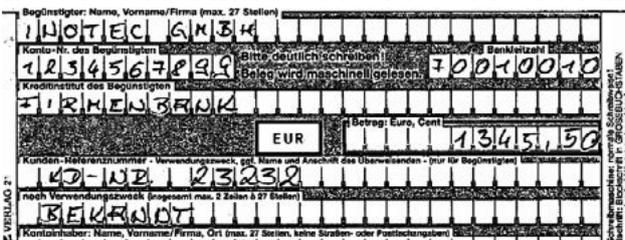
Again, let's consider the setting's effect by considering the sample grayscale image, to the left.



The default value of 30 will ensure that as little image information as possible is lost. Merely the gray areas on the form and the gray appearance of the paper itself are largely suppressed, whereas all other image information is preserved. Please note that this result, of course, will require appropriate **Brightness** and **Outlining** settings.



By reducing the **Contrast** setting to 0, the weighting effect is more or less nullified: Anything not attributed to the paper's surface is now interpreted as foreground information. Note how dark gray patterns on lighter areas have been surrounded with white pixels, in order to preserve legibility



After increasing the **Contrast** level to 100, only the darkest shades of gray are interpreted as foreground information. Everything else is considered background and removed.



The **Outlining** function is based on edge detection and changes the way filled areas are treated, during binarization. In order to illustrate the function's operation, we'll use our company logo as an example. The InoTec logo (*left*) is composed of adjacent white, black and red areas.



The default **Outlining** setting of 50 suppresses all gray areas (*including the red area's grayscale equivalents*), only the boundaries around them remain. As a result, the logo's overall appearance is preserved. Please note how the white letters in the lower logo area have been surrounded with black pixels, in order to ensure legibility.

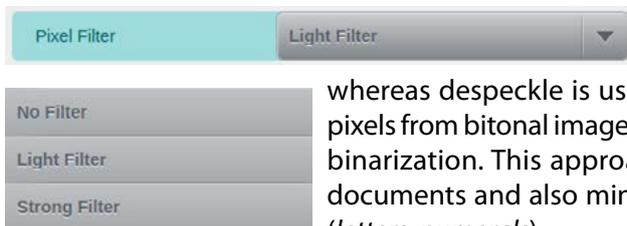


When reducing **Outlining** to 0, all solid black areas are removed, too. This includes the insides of the large black letters used to spell "InoTec", so only their contour is reproduced. In spite of these drastic changes, the logo's shapes and lettering can still be fully recognized.

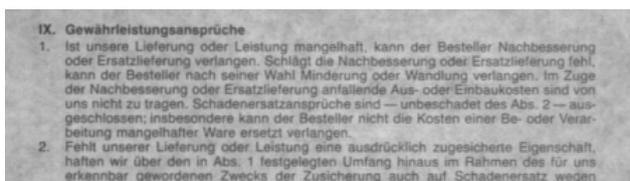




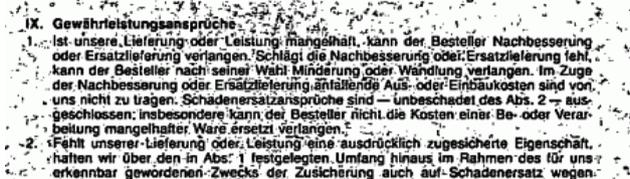
After increasing the **Outlining** level to 100, the shape on the left side of the logo is no longer recognizable and the lower logo area has been solidly filled.



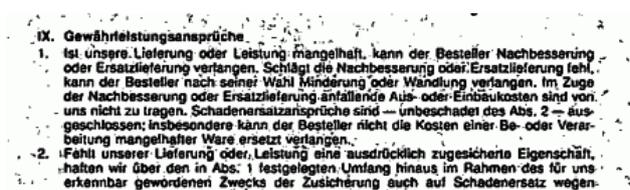
The operation of **Pixel Filter** is very similar to how a despeckle function works. However, whereas despeckle is used to remove isolated pixels or small clusters of pixels from bitonal images, **Pixel Filter** is applied to grayscale images, before binarization. This approach improves readability of darker or smudged documents and also minimizes the risk of destroying any image content (*letters, numerals*).



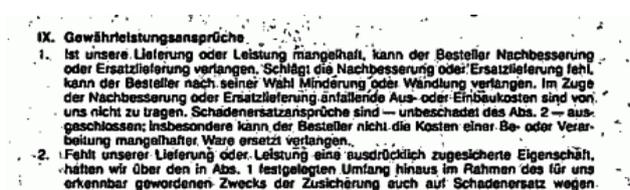
As an example, please consider the image shown to the left. We have chosen a document with light gray/smudged background and dark gray (*not black*) lettering. As a result, the color difference between background and text is alarmingly small, in some areas of the image.



When converting this image to bitonal with standard settings and **Pixel Filter** turned off (**No Filter**), readability is clearly impaired due to the high amount of noise (*pixels*) appearing in the text's background.



Applying a **Light Filter** (default) will improve conversion quality appreciably, resulting in much better text readability.



Switching to **Strong Filter** will improve conversion quality further, the resulting image contains even less noise and appears clearer.



Activating the **Disable Dynamic** control will turn off the complex and powerful binarization function offered by the H12 scanner, an algorithm designed to create the best possible bitonal images from virtually any mix of source documents.

The settings for **Contrast** and **Outlining** will be ignored and binarization will revert to using a fixed threshold, which is specified with the **Brightness** slide control.

Please note: When processing purely black & white input documents, a fixed brightness threshold may produce output images of equal or even better quality.

4.5.1.4.4. Stream Control (*under development*)



The menu item **Stream Control** enables a special mode, which determines during the scan process, which image format will be created, based on its settings and the detections. All activations of streams of this page (*Color/Gray/Bitonal*) are reset upon activation of the Stream Control, however its settings remain.

4.5.1.4.5. Blank Page Detection



The function **Blank Page Detection** allows you to identify and discard or mark the images without content, based on a multi-stage analysis and

is configured with the following four settings pages:



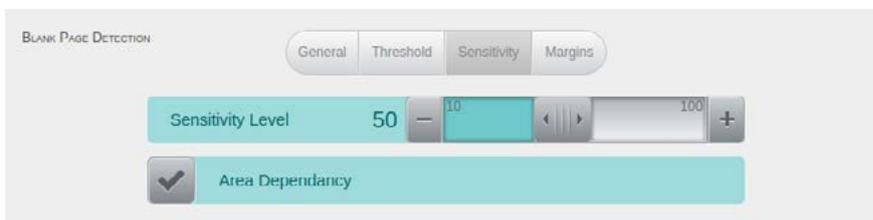
The **General** settings page contains just one control: The **Copy to Back** option (*visible when editing front side settings*) and the **Same as Front** option (*visible when editing back side settings*) will duplicate and apply all settings made on one side, to the other.



**Threshold:** Use the two sliders for **Mark Threshold** and **Remove Threshold** to set these values, as desired. Please note that the threshold value for marking blank pages may never be smaller than the threshold value for blank page removal.

If immediate blank page deletion is generally undesired, please set **Remove Threshold** to 0. A preview function (*under development*) will provide feedback and guidance on threshold levels and their effects, in future releases.

Activating the **Transfer White Image at Remove** option will cause the scanner to transfer a small white dummy image to the attached scan software instead of the original scanned page, whenever a blank page is detected. This feature will be of help whenever the scan software will not support blank page deletion by the scanner and features only limited blank page detection functionality, itself.



**Sensitivity:** Use the slider for **Sensitivity Level** to increase or reduce the overall blank page detection sensitivity.

Activating the **Area Dependency** option will put the amount of data detected on an image in relation to the total size of that image. Deactivating this option will cause blank page detection to operate using the absolute amount of data detected, without consideration of image size.

BLANK PAGE DETECTION

General Threshold Sensitivity Margins

Top [mm]  
15.0

Left [mm]  
15.0

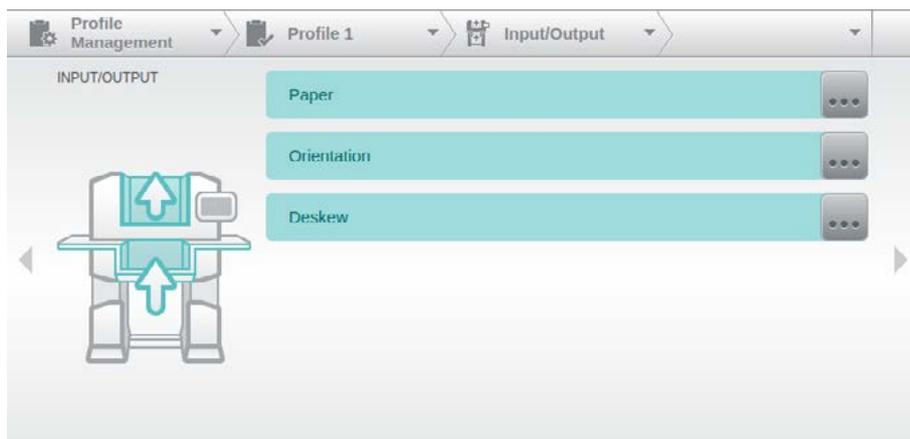
Right [mm]  
15.0

Bottom [mm]  
15.0

Cancel Ok

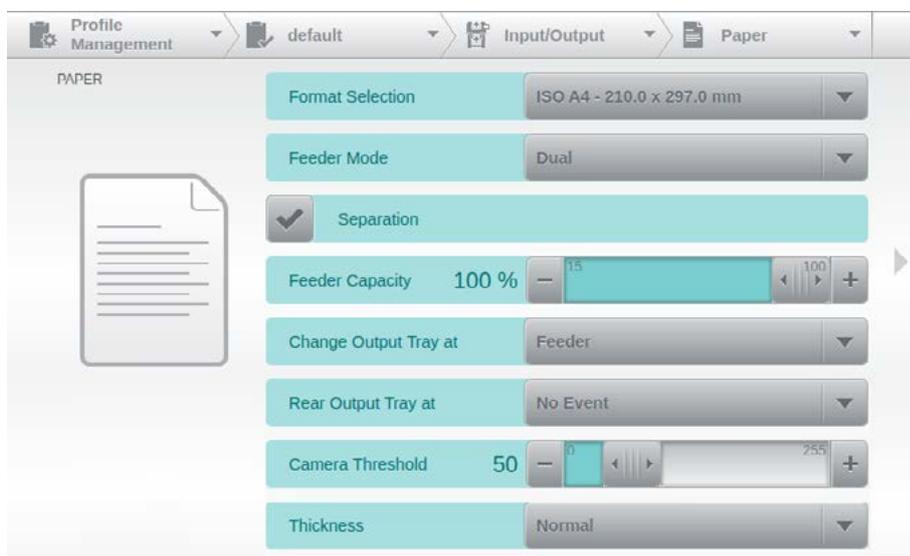
**Margins:** Reduces the image area utilized for blank page detection by the margins specified here. The default value of 15 mm will be sufficient to exclude typical document marks (such as *punch and staple holes*) from blank page detection.

## 4.5.2. Input/Output



In the **Input/Output** menu all profile settings that define the paper input and the image orientation, can be selected by three sub-menus. Selecting one of the menu items, branches directly to the associated setting masks, which are explained in detail below.

### 4.5.2.1. Paper



The setting group **Paper** contains all the parameters that deal with paper sizes, and output handling.

The mask pictured here is graphically edited, because it exceeds the display area of the touchscreen.

#### 4.5.2.1.1. Format Selection

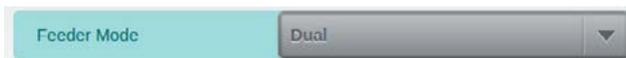
Maximum Scan Area
ISO A3 - 297.0 x 420.0 mm
ISO A4 - 210.0 x 297.0 mm
ISO A5 - 148.0 x 210.0 mm
ISO A6 - 105.0 x 148.0 mm
ISO A7 - 74.0 x 105.0 mm
ISO B4 - 250.0 x 353.0 mm
ISO B5 - 176.0 x 250.0 mm
ISO B6 - 125.0 x 176.0 mm
ISO B7 - 88.0 x 125.0 mm
US LEDGER - 11.0 x 17.0 inch
US LEGAL - 8.5 x 14.0 inch
US LETTER - 8.5 x 11.0 inch
US EXECUTIVE - 7.25 x 10.5 inch
US INVOICE - 5.5 x 8.5 inch

The first menu item defines the size of the required scan area via a format selection. The biggest format which should be scanned with this profile is always to be chosen here. Images of documents that are smaller than the specified format are automatically cropped to its original size by the internal image processing of the scanner.

The list shows the main European and American paper formats. The specification is always in portrait orientation. Specifying landscape formats is not necessary here, since the orientation of paper feed is defined in a separate point. The list can be extended by an administrator to create custom formats.

If the maximum size of the Scan templates is not known, the first entry **Maximum Scan Area** can be used. In this case, the maximum unit width is always processed by 317.5 mm. The maximum length is variable and depends on the other settings of this Scan Profile.

#### 4.5.2.1.2. Feeder Mode



The Feeder Mode is configurable with this menu item. By default, the mode **Batch** is set. In this mode, the input tray is in the lowest position. Once a paper stack is inserted and a scan process is started, the input tray is automatically raised so far that the documents can be pulled in. If the input tray is empty, it automatically moves back to its lowest position. If the mode **Manual** is selected, the input tray moves to its uppermost position. In this mode, single sheets or small stacks can be processed (up to 25 pages) without the input tray being raised at each Scanstart and lowered afterwards. If the scanner is equipped with a Dual Input Hopper, the mode **Dual** can be selected additionally (see [chapter 5.3.3.](#)).

#### 4.5.2.1.3. Separation



Via this option the Separation Roller can be deactivated in the input area (see [chapter 5.1.](#)), which possibly separates the documents, adhering to one another, by the braking effect in an activated state.

#### 4.5.2.1.4. Feeder Capacity



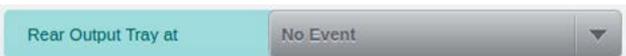
Via the slider control of this menu item, the capacity of the Input Tray can be reduced in percentage when the full feed height is not required. The Input Tray is in its lowest position when loading a profile with reduced feed height until the first scan process has been launched. When using a Dual Input Hopper, this setting applies to both Input Trays.

#### 4.5.2.1.5. Change Output Tray at



This setting is only available if the scanner is equipped with a 2nd Output Hopper. From the drop-down list, select a suitable event to automatically switch between output trays. The list include the detection of certain Patchcodes, or checking an internal Counter for reaching a specific value (see [chapter 4.5.4.1.5.](#)). Output trays may also be switched after each scan. When using a Dual Input Hopper (see [chapter 5.3.3.](#)), the default setting is **Feeder**. This setting will switch output trays in accordance with the input tray used. When also using HighSpeed Stacker Arms (see [chapter 5.6.2.](#)), then the **Feeder** option will activate the following, additional feature: As soon as the current input tray has been emptied, the scanner will switch over to the other input tray (provided this contains documents). As soon as the first sheet has been successfully loaded from the new input tray, the scanner will also switch to the empty output tray. At the same time, it will automatically lower the previous (and now full) output hopper, making it unnecessary to manually raise and return the stacker arm when removing the document pile. The output tray will reset to its top position whenever this output hopper becomes active again.

#### 4.5.2.1.6. Rear Output Tray at



The Rear Output Tray (see [chapter 5.6.6.](#)) is primarily intended for collecting separator sheets. Therefore, the list of events offered here mainly consists of different patchcode types. However, documents subject to a **Double feed** can also be sorted into the Rear Output Tray, so they can be separately checked and re-scanned, later. Obviously, this option should only be used if the sequence of input documents is of no importance. **Every scan** will route all scanned documents into the Rear Output Tray. This option will be automatically set whenever the **Thickness** option (see [below](#)) is used with the *Straight Through Paper Path Elevation* (see [chapter 2.2.5.](#)), because in this operating mode, scanned documents can only be ejected to the rear.

#### 4.5.2.1.7. Camera Threshold



This value determines the brightness threshold used by the camera to distinguish between scan background and incoming documents. As a basic rule, the darker documents are, the lower this value needs to be. Please note that the default value of 50 will already allow for very dark documents.

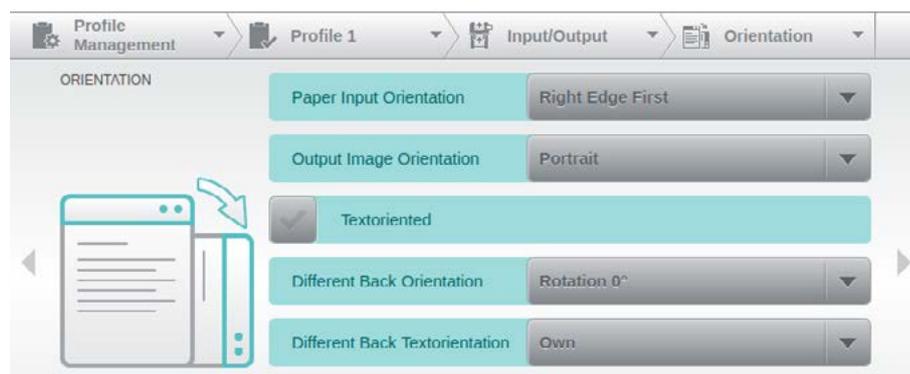
#### 4.5.2.1.8. Thickness



Through this selection, the optionally present *Straight Through Paper Path Elevation* can be activated. The default value **Normal** refers to the state without elevation. The values **1** to **4** increase in four equal steps to the maximum paper passage. The step should be adapted to the thickness of existing Scan material, because just as the material from a certain thickness is too thick to be processed in the normal mode, it can also be too thin for an activated increase to be grasped properly by the paper feed. As this in addition to pure paper thickness also depends on other factors such as weight, surface finish etc. the necessary increasing step can only be determined by tests with original material.

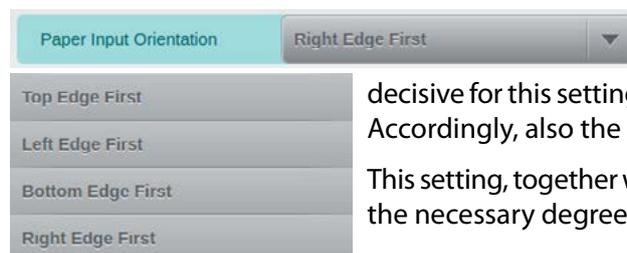
Furthermore, it should be noted that an activation of the *Straight Through Paper Path Elevation* automatically leads to a paper output in the Rear Output Tray (see chapter 5.6.6.).

### 4.5.2.2. Orientation



The five options on this screen determine how documents are placed into input hoppers and in which orientation the resulting images will be transferred. The scanner will use this information to apply image rotation, whenever necessary.

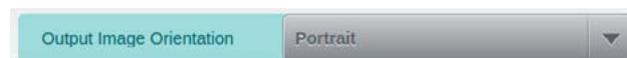
#### 4.5.2.2.1. Paper Input Orientation



The **Paper Input Orientation** specifies how the documents are laid in the input tray. What is decisive for this setting is the sheet edge facing towards the paper input. Accordingly, also the four selection possibilities.

This setting, together with the following **Output Image Orientation** forms the necessary degree of rotation for the output image.

#### 4.5.2.2.2. Output Image Orientation



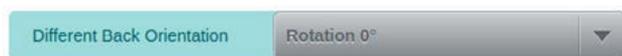
**Output Image Orientation** allows a choice of **Portrait** or **Landscape**. In combination with what-ever has been specified for **Paper Input Orientation**, above, this will determine the amount of rotation applied to output images.

#### 4.5.2.2.3. Textoriented (*under development*)



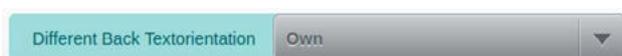
Activating this option will additionally check if images rotated according to settings **Paper Input Orientation** and **Output Image Orientation** now also have upright and recognizable text on them. Whenever this is not the case, images will be rotated in 90° steps either until upright and recognizable text is found or until the starting orientation has been restored. Please note that this option will only work if the images contain Latin-script text in sufficient amounts and size.

#### 4.5.2.2.4. Different Back Orientation



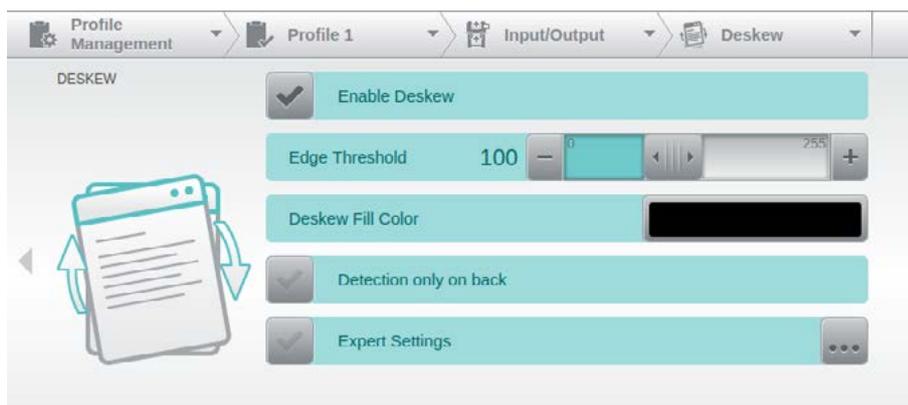
Use this option to specify a different orientation for the reverse sides of scanned pages. The rotation may be specified in 90° steps.

#### 4.5.2.2.5. Different Back Textorientation (*under development*)



If **Textoriented** (see chapter 4.5.2.2.3.) is active, then this option determines how the back sides of scanned pages are treated. You may either adopt the results coming from front sides or you may select **Own** for a separate check of the reverse sides of scanned pages.

### 4.5.2.3. Deskew



In the mask of the item **Deskew** the skewness correction for the output images is activated and configured.

As part of the **Deskew** function at the same time the black border removal is performed.

#### 4.5.2.3.1. Edge Threshold



Prior to deskewing and black border removal, the document's edges need to be detected. This is done by comparing brightness levels of scan background and document. Use the slider to set the desired threshold level. The default value of 100 should reliably work with most common paper types and colors. With unusually dark documents, or when using Gamma Correction (see chapter 4.5.1.1.1.), lowering the threshold value will very often help.

#### 4.5.2.3.2. Deskew Fill Color



Although the **Deskew** function will automatically extend the scan area in order to reduce the chance of lost corners, this might still happen in rare cases. Resulting empty image areas may be filled with any desired color. Tapping the colored area will open a sub menu, as shown to the left. The desired color may now be adjusted using three sliders for **red, green, blue**. Please note that this function will not fill areas which were

already missing from the physical document (*such as torn or cut off areas*).

#### 4.5.2.3.3. Detection only on back (*under development*)

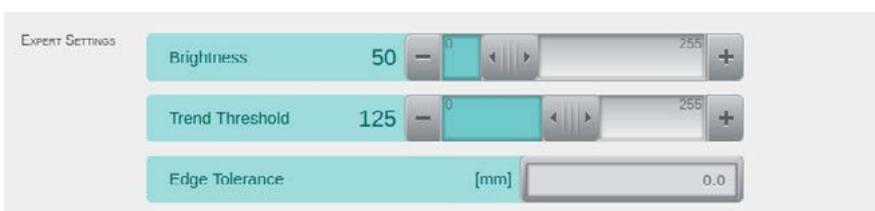


Activating this option will transfer edge detection to the reverse sides of pages and apply the results to the front. This option should only be used if edge detection is impossible or unreliable on front sides of documents, for technical reasons.

#### 4.5.2.3.4. Expert Settings



It is unnecessary to activate **Expert Settings** for deskewing, under normal circumstances. Any changes to the parameters offered here should only happen under guidance of InoTec expert staff.



### 4.5.3. Scanner



The setting group **Scanner** provides the access to the various internal detection and control functions via four menu items.

### 4.5.3.1. Double Feed Detection

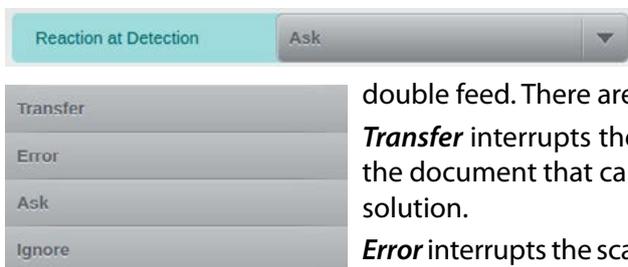


The options on this screen determine the behavior of the **Double Feed Detection**.

It is important to realize that the ultrasonic double feed sensors are never switched off, only the resulting actions are modified. Therefore, should any settings

made here result in images being transferred to the scan software in spite of a double feed detection, or should a scan-operator decide to do so, then images will always be marked to this effect, nonetheless.

#### 4.5.3.1.1. Reaction at Detection



Using the field **Reaction at Detection** it is selected how the scanner responds to a detected double feed. There are the following four options to select from.

**Transfer** interrupts the scanning process, but transfers the image(s) of the document that caused the Double Feed Detection to the scanning solution.

**Error** interrupts the scanning process and displays an error on the touchscreen of the scanner (see chapter 9.2.14.). The image(s) of the document that caused the double feed detection is/are discarded.

**Ask** interrupts the scanning process and opens an additional small screen, on the scanner's touchscreen. Two choices are available here, you may either **delete** or **transfer** the images which caused the double feed condition.



**Ignore** prevents a response to the Double Feed Detection. The scanning process continues.

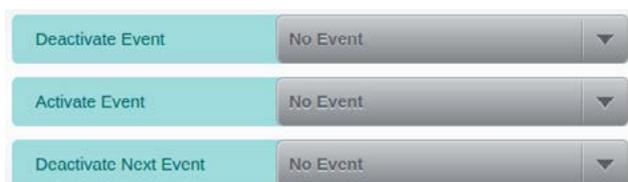
#### 4.5.3.1.2. Continue after Delete



... further modifies the chain of events after choosing **delete** (in combination with the **Reaction at Detection** setting **Ask** from above).

If **Continue after Delete** is inactive (default), then the current input tray will be automatically lowered, allowing you to replace the documents which caused the issue. A message will appear on the scanner's touchscreen, offering to proceed with scanning. Tap **continue** to do so. If **Continue after Delete** is active, then scanning will continue directly after having selected **delete**. Therefore, in this case, offending documents need to be returned to the input tray before pressing **delete**.

#### 4.5.3.1.3. Activate/Deactivate Events



These three options allow you to influence double feed detection during scanning. **Double feed detection** may be turned on, off or off for the next occurrence and can be controlled by events of your choice (such as patchcodes). Please note that the lists of events are standardized, therefore some of the events may not make sense, here.

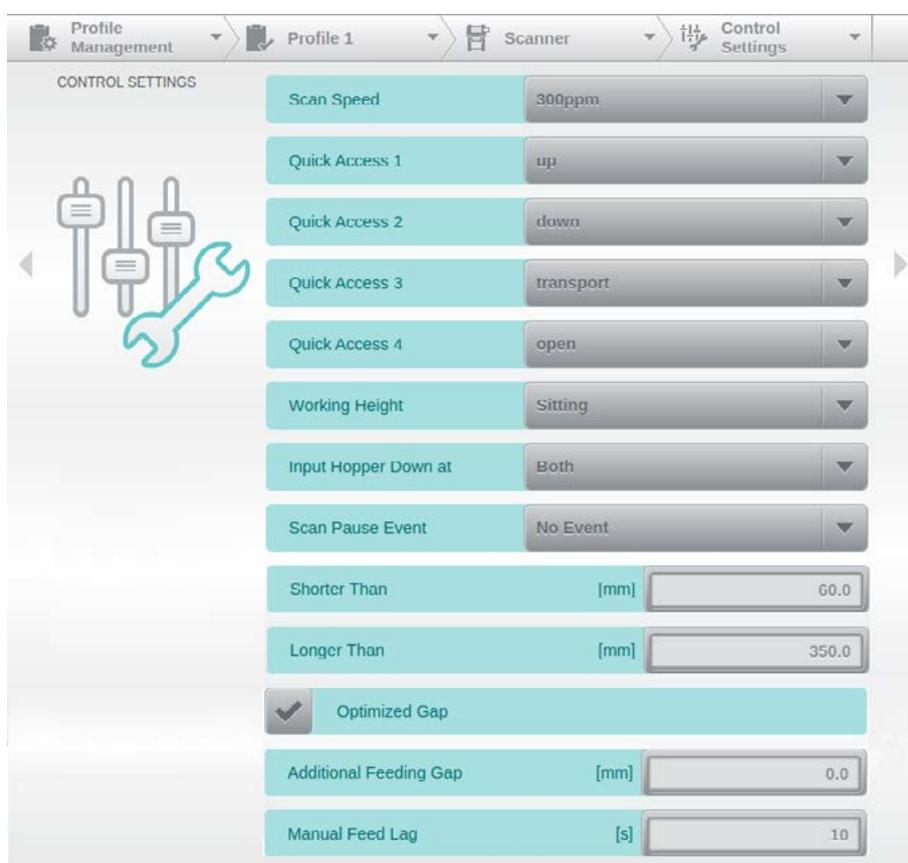
### 4.5.3.2. DF Sensor Configuration



The options on this screen set the detection areas for the three ultrasonic double feed sensors. Use the **Area Start** and **Area Stop** settings to define a customized reference area. For each of the three sensors separately, you may then choose if detection will

be performed along the whole page (**Full Page**), inside or outside the reference area specified above (**Inside Area/Outside Area**) or not at all (**Disabled**).

### 4.5.3.3. Control Settings



The setting group **Control Settings** contains various machine-specific settings which massively influence the scanner's behavior during day-to-day operation. They have been added in order to create an optimized work-environment leading to maximum efficiency.

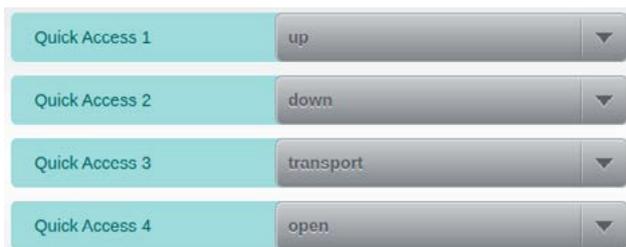
The mask pictured here is graphically edited, because it exceeds the display area of the touchscreen.

#### 4.5.3.3.1. Scan Speed (*under development*)



Use this control to throttle the scanner's page throughput. Currently, a reduced throughput is not achieved through slowing down the entire machine, but by increasing the spacing (i.e. the gaps) between documents. In case of the Model 821, this also results in a switch from HighSpeed mode to Restrained Output Mode (see chapter 5.6.3). The speed selection of 160 ppm is currently not yet supported (*Kapitel 5.6.3.*) gewechselt. Die ebenfalls auswählbare Geschwindigkeit vom 160ppm wird momentan noch nicht unterstützt.

## 4.5.3.3.2. QuickAccess 1-4

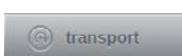


Use these four assignment settings to modify the *Quick Access Buttons* in the scan screen's button bar. Please note that there is an additional configuration method available, straight from the button bar itself (see [chapter 4.3.1.4.1.](#)).

Currently, the following functions are already available for use as quick access buttons. More will be added during the ongoing product development.



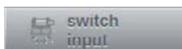
These two controls adjust the scanner's working height. Tapping and holding one of these keys will raise or lower the complete scanner assembly through telescopic action at the device's base, either until the key is released, or until the scanner's minimum or maximum working height has been reached.



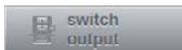
Tapping and holding this key will activate the scanner's paper transport, for as long as the key is pressed.



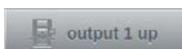
Tapping this key will open the scan plane (see [chapter 6.1.](#)), up to its first stop.



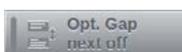
When using a *Dual Input Hopper*, this toggle-key will switch between input trays.



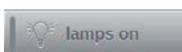
When using a *2nd Output Hopper*, this toggle-key will switch between output trays.



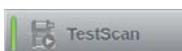
These two keys are only used if *HighSpeed Stacker Arms* are not installed or if the unit is operating in *Restrained Output Mode* (see [chapter 5.6.3.](#)). After having removed an output stack from one of the hoppers, tapping the corresponding key will return that output tray to its top position.



Glossy documents (*i.e. documents with a highly reflective surface across their full width*) may occasionally cause false detection of a *Paper Jam at Paper Input* (see [chapter 9.2.7.](#)). Tapping this key will turn the optical gap sensors off, for the next document in line, allowing it to be processed as usual.

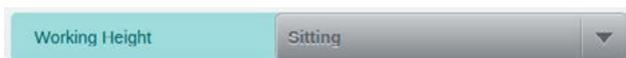


The **lamps on** key will turn on the scanner's LED lighting and will change appearance, once activated: the status bar on the left side of the key will turn green and the labeling will change from **lamps on** to **lamps off**, indicating that the next tap will turn the LED units off again.



The **TestScan** key will switch the scanner's operating mode to test scan mode, allowing a test of its paper handling and event control systems without any scan software being attached. In this mode, no images are produced. When activated, the status bar on the left side of the **TestScan** key will turn green, and a corresponding message will be shown in the scan screen's Status area (see [chapter 4.1.1.](#)).

## 4.5.3.3.3. Working Height



This setting determines the preferred working height, for this scan-profile. You may choose between a sitting and a standing position. Based on the selection made here and on the working heights stored for logged-in users (*under development*), the scanner will first issue a warning and then automatically adjust itself to the desired working height.

## 4.5.3.3.4. Input Hopper Down at

Unless empty, the currently active input tray may be automatically lowered, in certain circumstances. Use this setting to select one of four scenarios: **Pause** will lower the input tray whenever the scanning process is manually interrupted (see chapter 5.4.1.), **Error** will do so only if a scanning error has occurred. Selecting **Both** (the default setting) will cause the tray to be lowered in either of the previous cases, **Never** will prevent automatic action. This option is only of consequence if the Feeder Mode (see chapter 4.5.2.1.2.) is not set to **Manual**.

## 4.5.3.3.5. Scan Pause Event

Select an event which will automatically interrupt the scanning process. Apart from selecting **Any Scan** or various Patchcodes, you may also specify a minimum (**Shorter than**) and/or maximum (**Longer than**) document length, beyond which the scanning process will be paused.

## 4.5.3.3.6. Optimized Gap

Deactivating this option will prevent the optical sensors in the scanner's input section from optimizing document gaps. This might be advisable if there are increased paper jams in the scanner's input section (see chapter 9.2.7.) when processing heavy duty documents, and might also help when scanning glossy documents. However, this setting will cause broader gaps between documents, which in turn will lower document throughput. Please note that for occasional issues with difficult and glossy documents, you may use the special control key **Opt. Gap next off** (see chapter 4.5.3.3.2.).

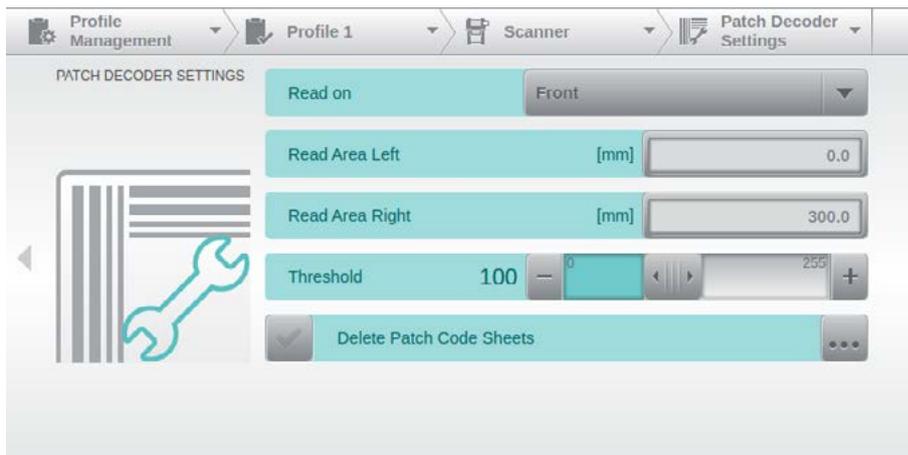
## 4.5.3.3.7. Additional Feeding Gap

Very light paper grades (with low paper weights) may cause issues with the scanner's output hoppers. In such cases, it might be advisable to increase the gaps between documents. Enter the desired additional gap size, here.

## 4.5.3.3.8. Manual Feed Lag

This setting specifies the grace period available for placing additional documents in the active input tray, before having to re-start the scanning process. The scanner will send an out-of-paper notification to the attached scan-software once this period has passed.

4.5.3.4. Patch Decoder Settings (under development)



This setting mask contains all the necessary settings to define the patch code detection.

Apart from *Delete Patch Code Sheets*, all settings on this screen (*Patch Decoder Settings*) are still under development.

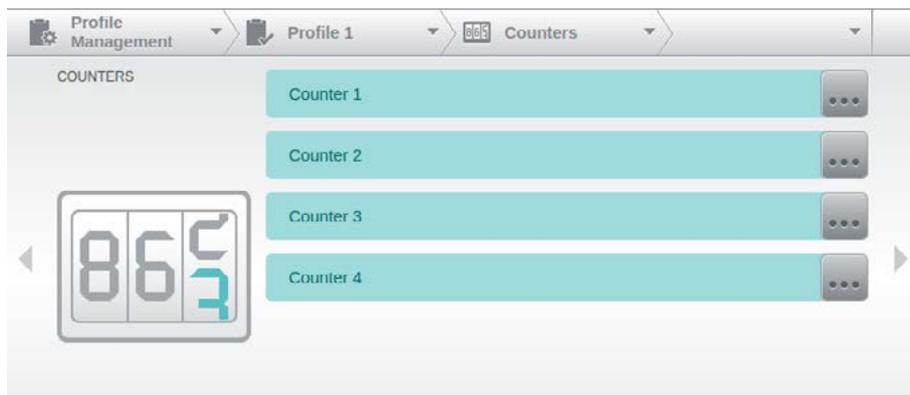
4.5.3.4.1. Delete Patch Code Sheets



Activating this option will discard pages with patchcodes on them, during scanning. Deletion will affect all images belonging to a recognized patchcode sheet (i.e. front and rear sides, from all streams).

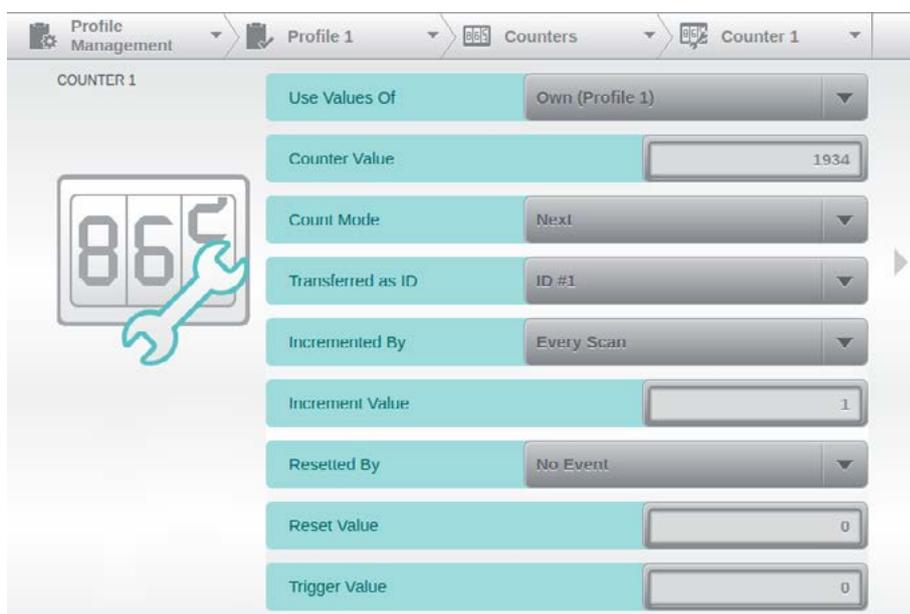
Exactly which patchcode types are discarded may be specified on the settings page shown to the left. By default, all patchcode types are checked, however, patchcode deletion itself is disabled.

### 4.5.4. Counters



The setting group **Counter** has four menu items access to the configuration of the four available scanner counters.

#### 4.5.4.1. Counter Settings



Since the settings details are the same for all counters, only **Counter 1** will be discussed, here.

The mask pictured here is graphically edited, because it exceeds the display area of the touchscreen.

##### 4.5.4.1.1. Counter Value



The top setting on this screen will allow you to copy a counter value from a different scanning profile. Selection is through a dynamic drop-down list which will display all profiles available on this scanner. The default entry is **Own** (<profile name>) and refers to the currently active profile.

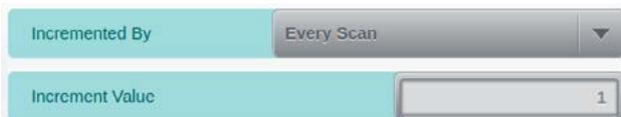
**Counter Value** will return the current count, however, this field may also be used to assign a new counter value. Depending on the **Count Mode** setting, the counter value will either refer to the last sheet scanned (**Current**) or to the next sheet to be scanned (**Next**).

##### 4.5.4.1.2. Transferred as ID



This setting determines which ID is used to transmit the current counter value, to the attached scan software. As a result, a counter's internal use and external representation may be completely different. Whether and how your scan software will accept such IDs needs to be clarified with the software vendor.

### 4.5.4.1.3. Counter Increment



The drop-down list at the top and the entry field below specify the count events and the increments used by this counter. Apart from **No Event** or **Every Scan**, the detection of patches

may also be used as count event. **Feeder** and **Double Feed** will increase the counter whenever the input tray is switched or whenever a double feed is detected, respectively. You may also use **Trigger Values** (see chapter 4.5.4.1.5.) from all four counters, as count events.

### 4.5.4.1.4. Counter Reset



The drop-down list at the top and the entry field below specify the reset event and the starting value used by this counter. The list of available events is the same as for **Counter Increment**, please see above.

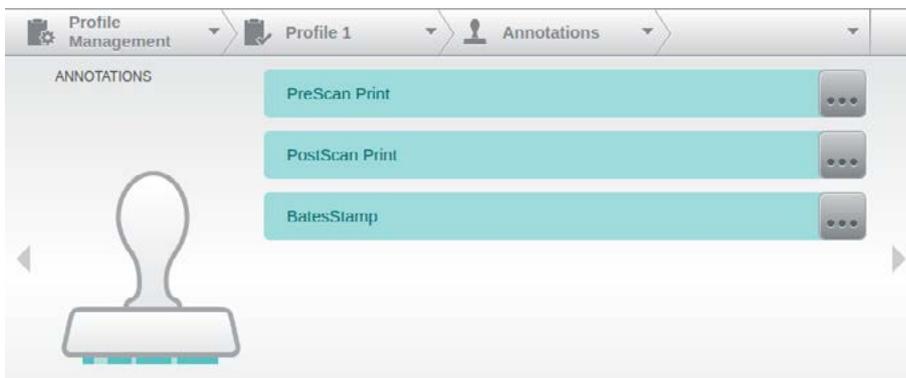
### 4.5.4.1.5. Trigger Value



Entering any number larger than zero will set this value as the **Trigger Value**, for this counter.

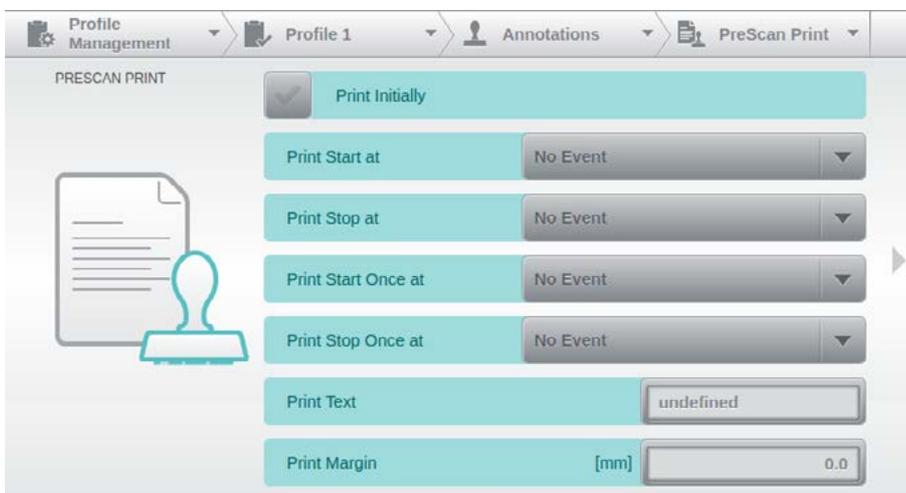
Whenever the counter reaches this value, it will produce a so-called trigger event. Such trigger events will appear in the event lists of other scanner functions as **Counter X triggered**.

## 4.5.5. Annotations



The setting group **Annotation** includes the configuration of the two imprinter and the digital image stamp.

### 4.5.5.1. PreScan/Post Scan Print



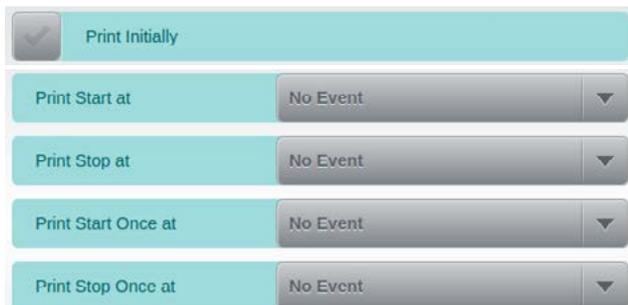
The setting screen contains all parameters for configuring the Imprinter.

The mask pictured here is graphically edited, because it exceeds the display area of the touchscreen.

Since the possible settings for both imprinters are identical, only the options for the Pre-Imprinter will be explained, here.

For technical reasons, only the Post-Imprinter can be utilized, at the moment.

4.5.5.1.1. Druckfunktion aktivieren/deaktivieren



Checking the top setting, **Print Initially**, will turn on the printing function at the start of each scan-process. The next four settings operate independently of the top setting and allow one-time or permanent printer activation and de-activation, through scanner events. Apart from **No Event** or **Every Scan**, the detection of patchcodes may also be used as event. **Feeder** and **Double Feed** will change the printing mode

whenever the input tray is switched or whenever a double feed is detected, respectively. You may also use **Trigger Values** (see chapter 4.5.4.1.5.) from all four counters, to control printing.

4.5.5.1.2. Print Text



Tapping the entry field for Print Text will open up an on-screen keyboard.



Between the entry field and the keyboard, a list of all available print variables and print attributes will appear (*full list to the left*). Variables and attributes may either be inserted at the cursor position by simply tapping them, or they may be manually inserted by entering their respective percent-codes.

The exact meaning of all print attributes and variables will be explained below.

**Print variables**

Information can be integrated in the **printed text** by printing variables that change during the scanning process. They can be specified at all points of the text and be combined with attributes. At the moment, the following variables are possible for the output of counters, and date/time information:

**Counter variables:**

The four counters are inserted via the variables **%CNT1%**, **%CNT2%**, **%CNT3%** or **%CNT4%**. The scanners Sequential ID by using **%SID%**. For the definition of the leading zeros or the places to be specified **before** the counter or the Seq.ID, the variable **%NMC%** is added with the number of digits. Here **%NMC%** is used to describe the counter without leading zeros, but in full length and **%NMC2%** to **%NMC10%** for an output with a specified number of digits incl. any leading zeros.

Here an example using the counter 1 with a value of 123456:

Print text information	Print result	Print text information	Print result
%CNT1%	123456		
%NMC% %CNT1%	123456	%NMC6% %CNT1%	123456
%NMC2% %CNT1%	56	%NMC7% %CNT1%	0123456
%NMC3% %CNT1%	456	%NMC8% %CNT1%	00123456
%NMC4% %CNT1%	3456	%NMC9% %CNT1%	000123456
%NMC5% %CNT1%	23456	%NMC10% %CNT1%	0000123456

**Date/time variables:**

By specifying the variables %TIME1% - %TIME9% and %DATE1% - %DATE9% predefined date and time strings are inserted into the text. The respective format is indicated on the right of the variable keys in the keypad.

In addition, the date can be specified in a separate format by variables. Here %DD% stands for the day of the month, %MM% is the month number, %MONTH% for the month name, %YY% for the decade and %CC% for the century. The variable %DOY% returns the current day of the year.

**Printing attributes**

...are used to change the appearance of the printed image. They can be specified at all points of the text and apply to the part of the text after the attribute, possibly followed by another attribute of the same kind. At the moment, the following three types of attributes can be selected for the definition of imprinter print:

**Landscape on/off**

defines the print orientation of the font. While %LSOFF% represents the default case, %LSON% rotates each subsequent character by 90° to the left.

**Spaced characters**

can be generated in different spaces by the attributes %CD##% whereat CD stands for character distance, thus the character spacing. Via the numerical data behind the distance is specified in pixels. The possible specification goes from the standard %CD00% (no spacing) to %CD10% (10 pixel spacing)

**Wide font**

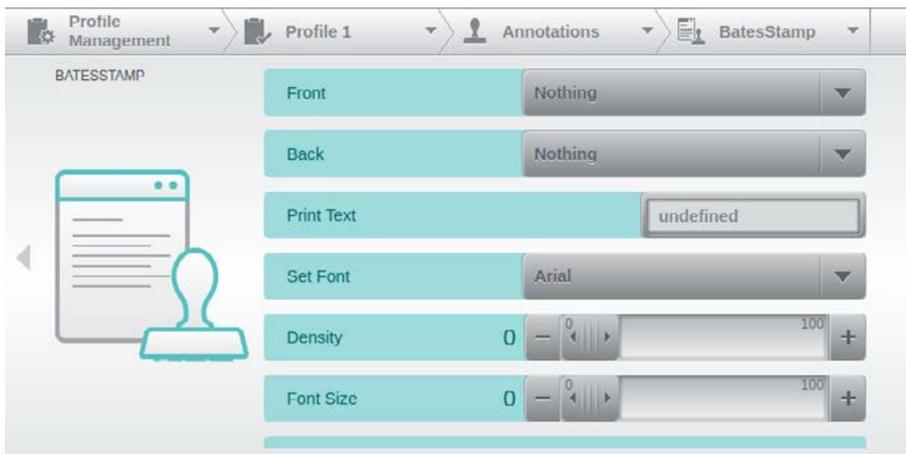
%PT0% to %PT5% designate attributes for specifying width font. Via the number specified behind PT, the additional point width is specified. Possible specification goes from Standard %PT0% (normal type) to %PT5% (extra wide)

4.5.5.1.3. Print Margin



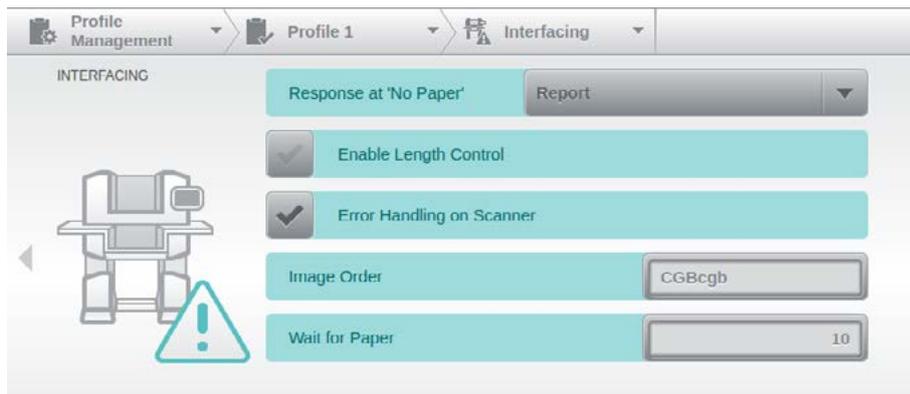
Use the numeric keypad to enter the desired distance between the document's edge and the start of the printing area.

4.5.5.2. Bates Stamp (under development)



This setting mask contains all the parameters for configuring the digital image stamp.

**4.5.6. Interfacing** *(under development)*



The settings of the ***Interfacing*** deal with the conduct towards external scanning software.

**4.5.7. Event Settings** *(under development)*

**4.6. User Management** *(under development)*

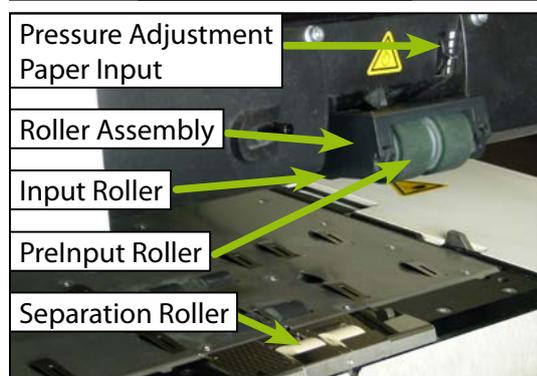
## 5. Scanning Documents

SCAMAX® scanners offer all conditions for efficient working. In particular, the devices of the H12 type can be optimized through optional extensions of the Output/Input Hopper. The following chapters describe possible setting and correct use of the hardware to ensure optimum paper transport.

### 5.1. Operation of the Input System



Dual Input Hopper



The used feeder system, processes a wide range of different paper thicknesses, also mixed in one stack. It is designed so that regardless of paper thickness and surface finish an optimal feeding performance is achieved without the need for an adjustment having to be made.

Centered above the front edge of the Input Tray, is the Roller Assembly that incorporates a PreInput Roller and an Input Roller. Upon Scanstart (see [chapter 5.4.](#)) the input plate is lifted until the PreInput Roller rests on the paper stack. The PreInput Roller pulls the documents from the top of the stack and transports them to the Input Rollers behind. The force applied to documents by the PreInput Roller may be changed in 5 steps and depending on the document's surface finish, by using the Pressure Adjustment Paper Input. Below the Input Roller is the Separation Roller that separates the sheets possibly adhering to one another by its braking action.

The friction linings of the Input Rollers and the Separation Roller are made such that cleaning (see [chapter 7.2.1./7.2.3.](#)) is hardly necessary during the process and can be performed as needed without much effort by the user. Once the linings are worn out, they can be changed with a few simple steps (see [cha7.2.2./5.6.6.1.](#)).

### 5.2. Preparation of Documents

In order to ensure minimum disruption during batch scan, a conscientious preparation of the material is essential for good scan. To do this, all foreign objects and contaminants (*paperclips, staples, glue, etc.*) should be removed from the Outputs. Donkey ears should be smoothed and deeper cracks glued. Stapled or bound documents are to be separated and folded papers straightened. Attention must not be paid to text-based orientation of documents as may be used during the scan functions of this comprehensive image orientation (see [chapter 4.5.2.1.5.](#)).

Because the documents are fed in on the front edge of the Input Tray by the feeder system, all documents of the stack must be pushed to the edge, pointing towards the document feeder. Documents that do not lie at the edge, necessarily produce a Double Feed (see [chapter 9.2.14.](#)). If the centered input is used (see [chapter 5.3.1.](#)) it should be ensured that any smaller documents will also be made to touch the central area. The use of the so-called paper shakers for the preparation of different formats is not recommended, as they do not provide for the central feed of documents.

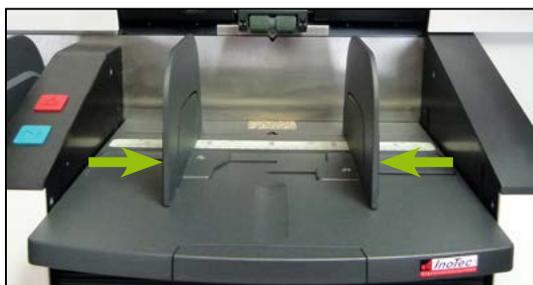
### 5.3. Input Hopper



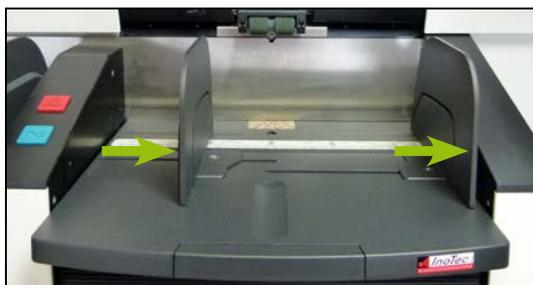
The scanners of the H12 type are equipped with a Single Input Hopper with a Input Tray or, optionally, with a Dual Input Hopper with two Input Trays.

Each Input Tray can accommodate documents with a stack height of up to 10 cm (*equivalent to approx. 1,000 sheets of new paper with 80g / m<sup>2</sup>*). The filling height of the Input Trays can be reduced depending on the profile and percentage (*see chapter 4.5.2.1.*).

#### 5.3.1. Settings



The Input Hopper has Paper Guides that can be manually adjusted to the processed document width. The Paper Guides are guided in opposite directions. This means that a Paper Guide automatically moves in the opposite direction when the other Paper Guide is moved.



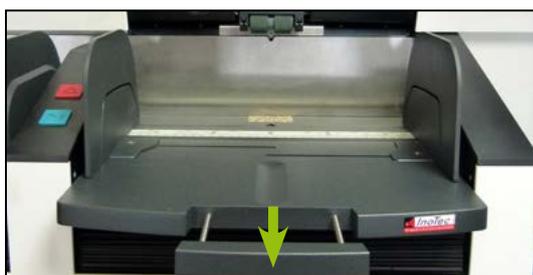
In order to process documents also non-centered, a Paper Guide is pushed to the desired location of the stop and held firmly while the required paper width is adjusted by shifting the other Paper Guide.



On the Input Plate there is a scale, from which the positions of the Paper Guides can be read. The information of various standard formats facilitates presetting. Furthermore, the positions of the three ultrasonic sensors for Double Feed Detection (*see chapter 4.5.3.1.*) and the possible print positions of the two imprinters are attached. A similar scale is located in the Output Tray(s) (*see chapter 5.6.1.*), so that the Paper Guides can be adjusted properly too.



If you are working with smaller paper stacks or the supplied Paper Guide Extensions are not needed, they can be removed easily. Since they are only held in place by two magnetic holders on the Paper Guides, they can be attached and removed easily by simply folding them in place or away.



To allow also longer documents (*such as A3*) to be fed in easily, it is possible to extract a input extension from the paper input plate.



For batch processing, the Input Tray is filled with a stack of prepared documents (see [chapter 5.2.](#)). It should be ensured that the documents are inserted with the bumped side towards the document feeder. The stack must not be so high that the PreInput Roller (see [chapter 5.1.](#)) rests directly on the Outputs.

### 5.3.2. Using the Single Input Hopper



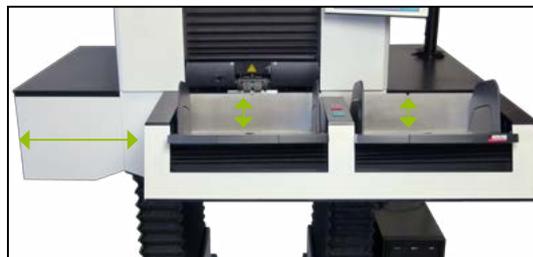
At a H12 type unit with Single Input Hopper, this is fixedly mounted on the front of the scanner and laterally enclosed by the shelves (see [chapter 2.3.1.1.](#)).

After filling the Input Tray and starting the scanner (see [chapter 5.4.](#)) the inserted paper stack is processed and kept in the defined Output Hopper(s) (see [chapter 4.5.2.1.5.](#)). To process a further stack, the Input Tray must be filled again and the scanner restarted. Through the Profile Management, a feed mode (see [chapter 4.5.2.1.2.](#))

can be chosen, which, continues the Scan process after inserting a paper stack.

### 5.3.3. Using the Dual Input Hopper

If the scanner is operated with the Dual Input Hopper, this is mounted movable horizontally on the front panel of the device. The side shelves are therefore smaller than in the version with a Single Input Hopper (see [chapter 2.3.1.2.](#)).



The Dual Input Hopper was designed to ensure continuous batch processing. This means that in the so-called Dual Feeder Mode (see [chapter 4.5.2.1.2.](#)) an Input Tray is processed, while the other one can be already filled with the next paper stack. If the currently processed Input Tray is empty, the Dual Input Hopper moves to the left or right to position the filled Input Tray under the feeder system, while the plate of the empty Input

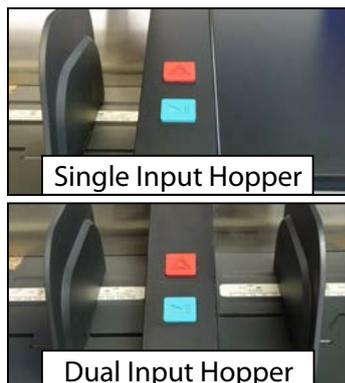
Tray is lowered. The scan process is automatically continued mutually until both Input Trays remain empty or the user stops the scan process manually (see [chapter 5.4.](#)).

In order to consistently ensure continuous scan practice, in addition to the Dual Input Hopper, also the use of a 2nd Output Hopper (see [chapter 5.6.5.](#)) is recommended.

#### **WARNING**

*When using a Dual Input Hopper, please make absolutely sure to keep the hopper's sideways range of movement clear at all times. Otherwise, there is a danger of sustaining pinching or concussion injuries.*

## 5.4. Start / Stop of the Scanner



To start or stop a scan process, there are various options in this scanner model. The easiest way is to use the provided hardware keys located on the Input Hopper right (*Single-Input Hopper*) or central (*Dual Input Hopper*).

The green button with the symbol ▶|| is designated button **Start/Pause**, while the red button behind is marked with the symbol ▲ and called button **Quick-Stop**.

In addition, in the scan screen (see chapter 4.3.1.) at the touchscreen a corresponding function key is displayed.

### 5.4.1. Start / Pause the Scan Process

Through the button **Start/Pause** ▶|| on the scanner the so-called batch scan is started. This process all documents in the Input Tray. When using the Dual Input Hopper, all documents are processed in the Input Trays mutually, until no new applied paper stack is inserted. Pressing the button again interrupts the current scan process. No further documents are drawn in. All documents that are still in the scanner are output.

An identical functionality includes the key **Scan Start** on the touch screen, but the label of the key will automatically switch to **Scan Pause** as a batch scan is started and after a new selection, for stopping the scan process, again to **Scan Start**.

If the scanner is controlled via a PC-based Scan software, the Scan process can be started and stopped using the functions available there. The scanner adopt the command of the scan software and switches to the appropriate mode. Ideally, this also works in the other direction and the scan software starts / pauses receiving data of the scan-PC as soon as the scan process on the scanner is started / interrupted. Whether the provided scan software supports such an approach may be obtained from the respective software partner or our software support.

### 5.4.2. Quick-Stop of the Scanner



With the red button **Quick Stop** ▲ at the scanner the scan process is immediately stopped. Means, all moving parts of the scanner are **immediately** stopped and documents that are in the scanner at this time will not be transported further. The adjacent error message of the scanner appears on the display. In addition to the key **OK** that closes the active error message, still two more

keys are available. **TRANSPORT** is a pressure-sensitive key that activates the paper transport only as long as it is pressed. If the paper transport cannot be emptied, the Scan Plane can be opened with the **OPEN** key to the first stage (see chapter 6.1.) to remove existing documents manually.

#### **CAUTION**

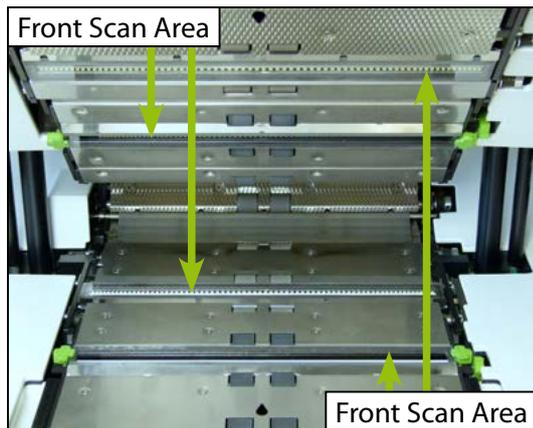
*With an input error or paper jam, the documents must never be detained or forcibly pulled out of the scanner, as this may otherwise result in damage to the documents or to the input mechanism. In case of a paper jam, which would obviously result in damage to the documents, immediately stop the scanner via the **Quick-Stop** key ▲ and open the Scan Plane (see chapter 6.1.) to remove the valuable scripts.*



If the **Quick-Stop** key  is pressed during a scan process, and an attempt is made to restart the scan process, you get an error message that there are still sheets in the scanner. This condition must be corrected as described above or in the message, before scan process can be continued.

## 5.5. Scan Plane

Directly behind the feeder, the Scan Plane begins (see chapter 2.3.3.), in which the documents pass through the Document Input Detection (see chapter 4.5.3.4.) and Double Feed Detection (see chapter 4.5.3.1.), as well as the PreScan Print Area (see chapter 8.1.) before first the Front Scan Area and then the Rear Scan Area is reached. Each Scan Area consists of a Scan Module with LED Illumination Unit and an associated Scan Background on the opposite side of the Scan Plane.



Both Scan Module and -Background are closed dust-protected with a cover made of high quality Xensation™ glass. In the Front and Rear Scan Modules respectively the associated LED Illumination Unit can be seen, which ensures uniform illumination of the Scan surface.

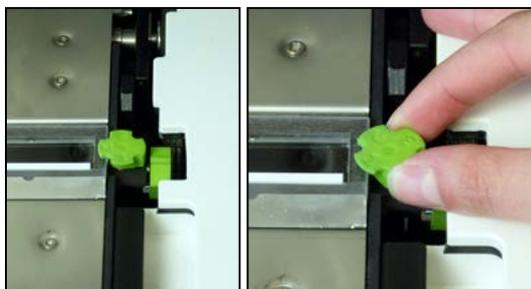
Both Scan Module and -Background are closed dust-protected with a cover made of high quality Xensation™ glass. In the Front and Rear Scan Modules respectively the associated LED Illumination Unit can be seen, which ensures uniform illumination of the Scan surface.

### 5.5.1. Scan Background



Right of the Scan Background a small green lever is located to change the Scan Background from black to white (see also chapter 4.5.1.1.4.). This is used for processing foils and transparencies, but can also be useful for very thin papers. In the standard case (*black Scan Background*) it must be ensured that the green lever at the Scan Background is folded forward at the front and backwards at the rear.

### 5.5.2. Paper Passage Setting.



With the green dials which are located at both sides of the Scan Background the Paper Passage Setting, i.e. the distance between the glass guides of the Scan Module and the Scan Background can be varied in three stages. The dials are labelled with numbers from 1 to 3, and when turned, they will latch into one of these three positions. The current setting is indicated by the number pointing inwards, towards the scan background.

The three numbers are representing the possible passage widths: 1 = approx. 1 mm (*best quality*), 2 = approx. 2 mm (*balanced*) and 3 = approx. 3 mm (*best flexibility*). This suggests that the close position also generates the highest image sharpness and therefore the best image quality, whilst with the open position it offers the highest flexibility with respect to paper thickness and even stapled documents can be processed. The middle position is a balanced setting with very good sharpness and flexibility. In order to ensure correct operation, all four dials need to be set to the same number.

## 5.6. Output Hopper



The scanners of the H12 type are equipped with one or two Output Hoppers. Each Output Hopper allows in its Output Tray a stack height of up to 12 cm, thus offers 20% more space than the Input Hopper(s). This is necessary since the stack of scanned documents is generally significantly looser than it was in the Input Tray. At the beginning of the scan process, the tray plate of an empty Output Tray moves to the uppermost position and successively descends during scan. If the maximum stack

height of an Output Hopper is reached, the scan will stop automatically and you will see an error message on the screen of the scanner (see chapter 9.2.6.).

In addition to the Output Hoppers, the device also has a Rear Output Tray (see chapter 5.6.6.).

### 5.6.1. Setting Possibilities



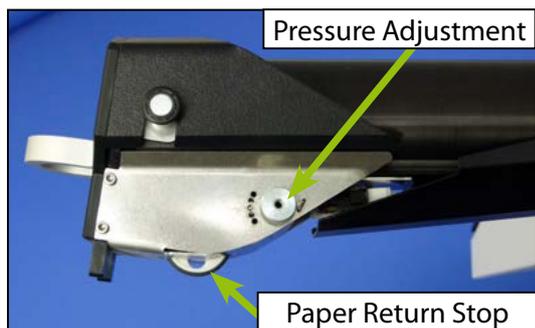
Just as the Input Hopper (see chapter 5.3.1.) every Output Hopper has lateral Paper Guides that can be manually adjusted to the width of the documents to be processed. In contrast to Input Hoppers these two Paper Guides are, however, not connected and are set completely independently.

Behind the tray plate each Output Tray has a scale identical to the scale of the Input Hopper, based on which the positioning of the Output Paper Guides can be made easier. The information of various standard formats facilitates this setting.



The Paper Stop (*under development*) is mounted on the tray plate and can also be set manually to the length of the documents to be processed. If the format exceeds the length of the tray plate, the middle part can be pulled out in order to accommodate documents up to a length of 42 cm. If the documents exceed this length, the Paper Stop must be removed, for this, it is pulled to the rear out of the guide while the middle part is extracted.

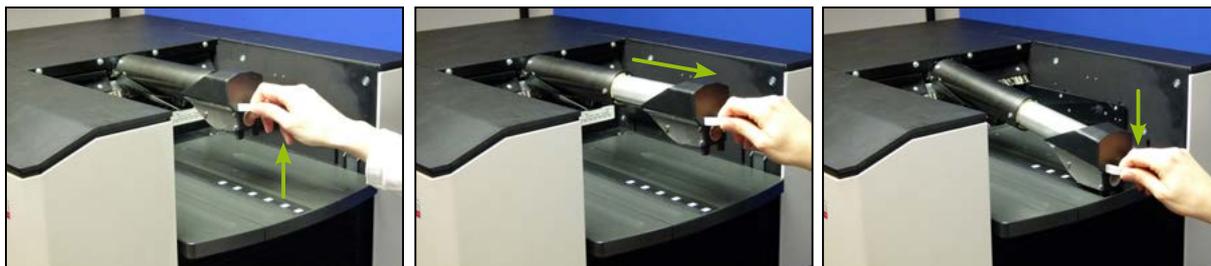
### 5.6.2. HighSpeed Stacker Arm



For a controlled and thus safer paper output, at a scan speed of 300 ppm the use of the optional HighSpeed Stacker Arm is prescribed. This holds documents firmly via the built-in Paper Return Stop so that springing back after reaching the Paper Stop is prevented. Over the five Pressure Adjustment positions the resistance of the Paper Return Stop at different paper weights and surfaces can be adjusted. While the middle of the five positions is meant for Scan projects with medium weight (60-100 g/m<sup>2</sup>) and size (A5-A4), the resistance for lighter

or smaller documents should be reduced by turning the pressure adjustment to the right by one or two steps and increased for heavier, larger documents or material with a slippery surface by turning one or two steps to the left.

A telescopic system allows the HighSpeed Stacker Arm to be adjusted to the document length to be processed. As can be seen in the following image series, the HighSpeed Stacker Arm is first folded upwards to change the stop length, at the same time, the Tray Plate is lowered somewhat. Now the head of the arm may be pushed back to its shortest position or to the front edge of the tray plate (equivalent to A4 portrait) and then be folded down again. The tray plate initializes back to its uppermost position. For orientation of the stop length is a number scale on the Tray Plate.

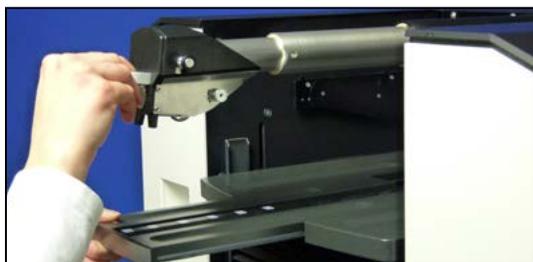


#### Notice

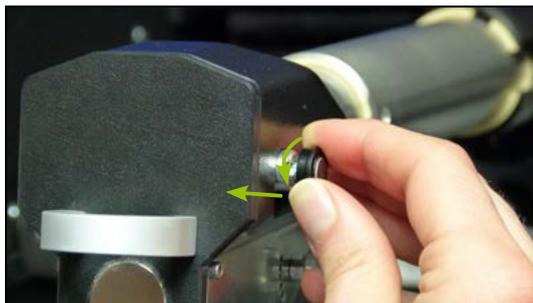
*It is important to ensure that there are no documents or objects below the Output Paper Guides located, while the tray plate moves upwards. This would result in an error message (see chapter 9.2.13.).*



If documents between 30 cm (DIN A4 portrait) and 42 cm (DIN A3 portrait) should be processed, the middle part of the tray plate must be pulled out to the required length first (see chapter 5.6.1.). Now fold the HighSpeed Stacker Arm upwards and pull out the head completely (see above). If the lock is pulled out on the right side of the head, the Stacker Arm can now be extended via a second telescopic stage up to the end of the tray plate extension. If the arm is folded back downwards, the tray plate initializes back to its uppermost position

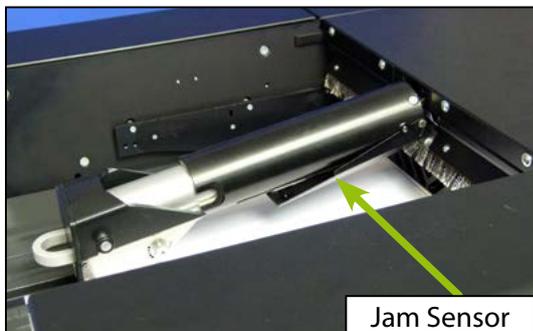


A slight rotation of the lock when pulling out causes it to remain in the open position.

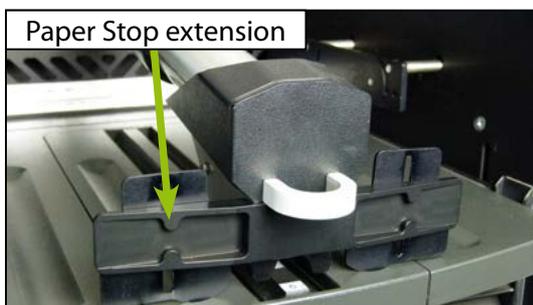


If the additional extension is no longer needed, the lock at the top of the Stacker Arm is pulled out and this is pushed back to the first telescopic stage, so that the locking slides back into its guide when released.

If the lock was turned when pulling out, it must be rotated so that it is again in the guide and visibly snaps in place after pushing back the head.



Since the documents are ejected at a very high speed when using the HighSpeed Stacker Arm, it is important that the scanner is stopped as soon as possible in case of a disruption at the Output. For this purpose, the Stacker Arm has been provided with a Jam Sensor on the bottom side. In case of distortion in the Output, this sensor is triggered very rapidly by the scanned material and stops the scanner. A corresponding error message appears on the display of the scanner (see [chapter 9.2.12.](#))



In order to prevent the lateral twisting of smaller documents at high speeds in the Output Hopper, a Paper Stop Extension will be delivered together with the HighSpeed Stacker Arm.



To use the Paper Stop extension, the integrated magnet holder is simply attached to the counterpart on the head of the HighSpeed Stacker Arm.

### 5.6.3. HighSpeed / Restrained Output Mode

In relation to the two output systems and their different way of working manner, with the devices of the H12 type we are talking about the HighSpeed Output and Restrained Output Mode.

The HighSpeed Output Mode is used only in connection with the HighSpeed Stacker Arm. In this case the documents are ejected into the Output Tray and piled up to a stack by the functions of the HighSpeed Stacker Arm (see chapter 5.6.2.). The documents are thereby pushed to the same edge, as prepared for Paper Input (see chapter 5.2.). Based on a sensor in the Paper Stop it is determined how much the tray plate needs to be lowered during the scan process. In this mode, the Paper Stop must be removed (see chapter 5.6.1.) because the HighSpeed Stacker Arm has its own Paper Stop.

If the used model does not have a HighSpeed Stacker Arm or a lower scan speed was elected for the scan project, we speak of a Restrained Output. Here, the scanned documents will be restrained directly at the output and falls down to the tray plate, which get lowered gradually during the scan process.

#### Notice

*For devices with HighSpeed Stacker Arm, make sure that before the Scanstart with HighSpeed Output of the Stacker Arm was folded downwards and for Retrained Output Mode it was folded upwards. Otherwise, a corresponding warning appears on the display of the scanner (see chapter 9.1.4.).*

### 5.6.4. Use of One Output Hopper



If the H12 unit is operated with one Output Hopper, all scanned documents are generally ejected into the corresponding Output Tray which are not sorted out by project-dependent settings into the Rear Output Tray. If the Output Hopper is fitted with a HighSpeed Stacker Arm (see chapter 5.6.2.), it must be folded up to empty the Output Tray. The tray plate will be slightly lowered and the paper stack can be easily removed. If the Stacker Arm is again folded down, the tray plate initializes back to its uppermost position.



When using the Paper Stop (*under development*) the paper stack can be removed simply forward. The tray plate initializes back to its uppermost position just at the start of the next scan process.

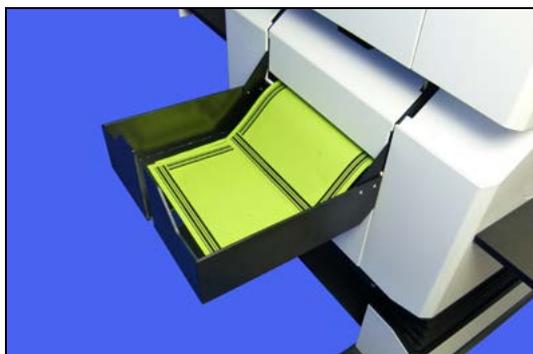
If one Output Hopper in conjunction with the Dual Input Hopper (see chapter 5.3.3.) is used, its advantage of continuous processing can most likely not be accessed. An emptying of the Output Tray during the Input Tray changes is theoretically possible, but practically it requires a lot of practice.

### 5.6.5. Use of Two Output Hoppers

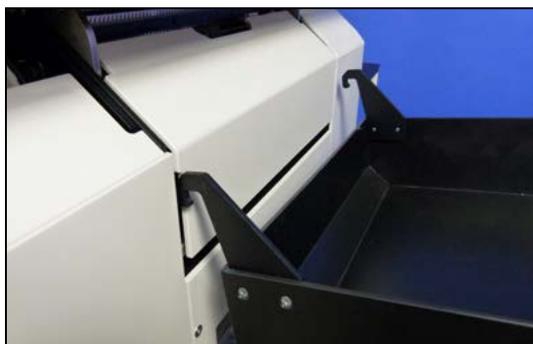
If the device has a 2nd Output Hopper, the Output of documents can be passed project-oriented in both Output Trays. The most common way here is the fixed assignment of a Output Tray for a Input Tray in conjunction with the Dual Input Hopper (see chapter 4.5.2.1.5.). However, various other scenarios are possible and reasonable.

Emptying the Output Tray is basically identical to the procedure for one Output Hopper (see chapter above). When using HighSpeed Stacker Arms together with the option **Change Output Tray at Feeder**, however, after the change, the previously filled Output Hopper is automatically lowered (see chapter 4.5.2.1.). Thus, the respective Stacker Arm needs no longer to be folded up and down manually to remove the paper stack. The tray plate initializes back to its uppermost position as soon as this Output Hopper is reactivated.

### 5.6.6. Using the Rear Output Tray



The Rear Output Tray that is attached to the rear panel, has no Paper Guides and is limited to a document length of about 30 cm. The ejected documents can be easily removed by the intervention on its back side. Primarily this should give the possibility to sort out individual documents from the actual paper stack, for example Patch code and bar code sheets or envelopes. For the projects designed for this purpose also the sort out of detected double-sheet inputs to maintain the scan throughput would be considerable.



The Rear Output Tray can be removed and reattached easily for cleaning or maintenance purposes, or if it is not used. For this, you simply lift the hook-shaped extensions of the Output Tray from the designated holding pin on the back of the scanner or hang them there again.

#### 5.6.6.1. Straight Through Paper Path

Since documents that are ejected to the Rear Output Tray, are transported straight through the scanner, without deflection, we are talking here of a Straight Through Paper Pass. Especially in combination with the available option "Straight Through Paper Path Elevation" (see chapter 2.2.5./ 4.5.2.1.8.) this offers the possibility to process even very thick or inflexible material.

## 6. Opening the Scanner

To clear a paper jam or to carry out cleaning and maintenance work, it may be necessary to open the scanner or sporadically to remove covers. All opening options are displayed below in a graphical overview and their handling clearly explained in the next few chapters.



### 6.1. Opening/Closing the Scan Plane



The area with the highest access frequency is the Scan Plane area. The opening and closing of the Scan Plane is motorized and is performed by pressing the buttons Open ↑ and Close ↓. These are located in the housing, in the front left next to the Output Tray. Opening the Scan Plane is possible in two steps. A short press on the button Open, raises the scanner upper part up to the first step. The resulting gap of a few centimeters allows easy removal of documents from the front scanning area in case of a feeder error or paper jam. Opening the Scan Plane to the first step is also possible using the **Open**

button that appears in case of some errors (see chapter 9.2.7. ff) on the scanner touchscreen. When the button Open ↑ is pressed permanently, the Scan Plane remains open as long as the button is pressed, or until it reaches its maximum point. To close the Scan Plane the button Close ↓ is pressed held until the Scanner Upper Section rests completely on the Scanner Lower Section.

#### Notice

*If the scanner is equipped with a 2nd Output Hopper and the Output Hopper was previously opened (see chapter 6.2.2.), the function of the **Open** button in the housing and the touchscreen will be disabled for safety reasons.*

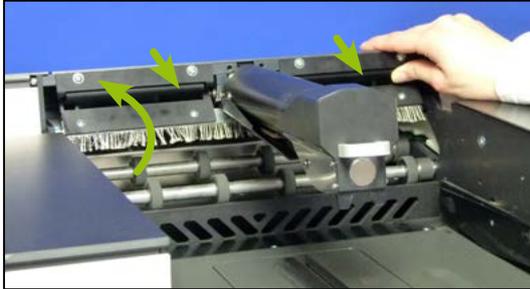
#### Warning

*Before closing the Scan Plane, it is essential to ensure that no body parts or objects linger within the Scanner Lower Section and the Scanner Upper Section (see chapter 1.2.2.3.) when closed, in order to avoid injury or damage.*

## 6.2. Opening/Closing the Output Hopper(s)

Since the procedure differs between the variant with two Output Hoppers and that equipped with one Output Hopper, we explain the opening/closing below...

### 6.2.1. ... with One Output Hopper



The Unlocking of the Output Hopper is located on the right and left of the paper ejection. If a HighSpeed Stacker Arm (see chapter 5.6.2.) is used, this is right in between. To open, one of the Unlocking buttons is pushed up and the top part of the Output Hopper folded backwards. To close, the top part is guided to the front and engaged with light pressure from above the lock.

### 6.2.2. ... with Two Output Hoppers

If the scanner is equipped with a 2nd Output Hopper, opening and closing of the 2nd Output Hopper is identical to the description in the previous chapter. Since the 2nd Output Hopper is placed on top of the Output Hopper and this is also folded up when opening the Output Hopper, the procedure for opening/closing the Output Hopper is different in this case.



Now the Unlocking of the Output Hopper is located in a grip depression that is integrated in the front left of the housing of the 2nd Output Hopper. To open, the Unlocking latch is pulled forward and the top of the Output Hopper, along with the attached 2nd Output Hopper is opened until resistance is felt, from point this part slides independently to the rearmost position. To close, guide the open part forward again until the lock snaps in place.

### **Warning**

*Before closing the Output Hopper with an attached 2nd Output Hopper, it is essential to ensure that within the area of the 2nd Output Hopper, on which the Output Hopper (see chapter 1.2.2.3.), rests, no body parts or objects linger in order to avoid injury or damage.*

### 6.3. Removing/Attaching the Cover Output Hopper

The change the print position of the Post-Imprinter (see chapter 8.2.) and replace the corresponding ink cartridge, or to open the Intermediate Drive Unit (next chapter), the Cover Output Hopper on the back of the scanner must be removed first.



To remove the cover, pull the holder provided in order to release the cover from the magnetic holders and lift it out of the bottom-mounted suspensions. To attach, put the suspensions back to the appropriate pins and fold the cover upwards onto the magnetic holders.

An identical cover attached to the 2nd Output Hopper must be usually removed only for maintenance.

### 6.4. Opening/Closing the Intermediate Drive Unit

If the scanner is equipped with a 2nd Output Hopper, a short transport path is located between it and the Output Hopper, which, in the case of a paper jam in this area, can be reached only by folding the Intermediate Drive Unit. This is located below the Cover Output Hopper (previous chapter), which must be removed beforehand.



The Intermediate Drive Unit is locked on the left and right. To release, the locking pins must be pulled out. If they are thereby slightly turned, they remain in the unlocked position.



Now the Intermediate Drive Unit at the top can be folded out and thus allows you to access any jammed documents and stuck scraps of paper, staples or the like in this area of the transport path. To close, pull out the two locks again, completely folding in the drive unit and let the two latches to slide back again into the guides.

#### Notice

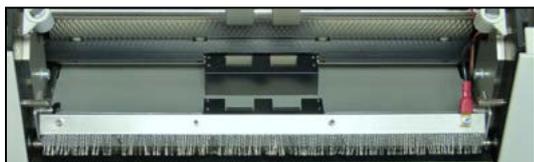
*If the Intermediate Drive Unit was not closed properly, this can lead to errors in the paper transport and to associated damage to the scanning material.*

### 6.5. Removing/Attaching the Base Cover

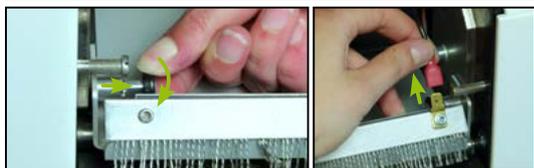


The Base Cover on the rear panel must be removed to gain access to the Rear Output (*next chapter*). For this, pull the cover on the top of the adjacent magnetic holders and lift out the bottom attached suspensions. To attach the Base Cover, attach the suspensions back to the appropriate pins and fold the cover upwards against the magnetic holders.

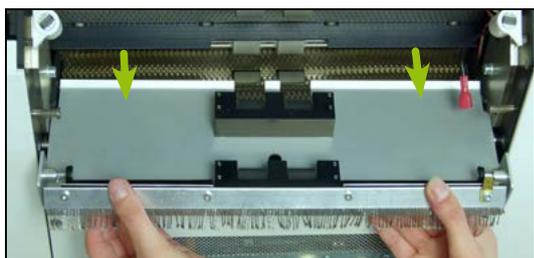
### 6.6. Removing/Inserting the Rear Output Pressure Unit



The Rear Output Pressure Unit is covered by the Base Cover. These must be removed first (*previous chapter*), the Pressure Unit is to be taken out in case of a fault or for cleaning.



The Rear Output Pressure Unit is fixed laterally with two locks. To unlock, these must be pulled out. If they are thereby slightly turned, they remain in the unlocked position. Additionally the grounding cable which is mounted on the right hand side has to be unplugged.



Now, the Pressure Unit can be pulled out at the rear in order to remove any jammed outputs or scraps of paper, staples or the like stuck in this area. To install, pull out the two locks again, push back the pressure unit to the designated place, allow the locks to slide back again into the guides and plug on the grounding cable again..

## 7. Cleaning and Maintenance

To achieve an optimum image quality and avoid excessive wear, it is important to keep the scanner free of dust and dirt.

The exterior of the scanner must be cleaned only with a lint-free cloth and clear water. To remove paper dust inside the scanner only proven dust brush or soft cloth should be used. At regular intervals dust and smaller particles (*bits of paper, staples*) should be vacuum-cleaned from the lower part of the scanner. A special vacuum cleaner is available under Order No: **s 910 0020**.

### **CAUTION**

*The use of compressed air to remove dust and hung-up paper scraps by "blasting" is strongly discouraged because the turbulence of particles cannot be controlled and therefore metal parts such as staples or the like, can come to rest on circuit boards or electrical connections. This can lead to damage of components and failure of the scanner. Damages of such origin are not subject to warranty!*

### 7.1. Cleaning Accessory



To be able to carry out the cleaning activities described in the following chapters, the devices of the H12 type are delivered with a Cleaning Accessory Set.

It is part of the Accessory Set H12 (see [chapter 3.1.](#)) and contains the most important utensils necessary for the maintenance of the scanner. If you want to order individual parts of the Cleaning Accessory Set, enter the corresponding order number from the content list of the Accessory Set H12.

The whipers are also available in a larger packaging unit under the following name:

- Whipers, white (20 pcs.).....e 901 0000

With the included tweezers stuck scraps of paper, staples, or the like can easily be removed from hardly accessible positions

## 7.2. Cleaning/Maintenance of the Paper Input

With an increasing number of processed documents, some parts in the scanner get dirty or worn out, and must be cleaned or replaced. This includes in particular the friction linings of the Input Rollers and the Separation Roller. This can be easily carried out by each operator that adheres to these instructions.

Since excessive dirt or wear of the Paper Input always result in increased level of feeder or double feed errors, the cleaning and maintenance involved is a demand-oriented activity by which the cycle is significantly influenced by the kind of documents to be processed.

### CAUTION

*To clean the linings, exclusively use the intended SCAMAX® SV1A Cleaning Solution for Rubbers & Belts. The use of other solvents such as benzene, acetone, or the like can cause damage to the linings.*

*Since SCAMAX® SV1A Cleaning Solution for Rubbers & Belts contains solvent, the contact with sensitive surfaces must be avoided, as these might otherwise be damaged.*

### WARNING

*SCAMAX® Cleaning Solution for Rubbers & Belts is flammable and removes fat. Keep smoking and naked flames away. For sensitive skin protective gloves should be worn. These are contained in two different sizes in the cleaning kit. The warning labels on the containers of the cleaning fluid must be observed!*

### Notice

*It is recommended to put the roller linings **at the earliest** 10 minutes after cleaning in operation, otherwise solvent residues of the used Cleaning Solution for Rubbers & Belts still adheres on the linings. An application in "wet" state leads to more rapid dirt accumulation of the linings due to increased ablation of ink- and toner residues and dust.*

### 7.2.1. Cleaning the Feeder Roller Friction Linings-



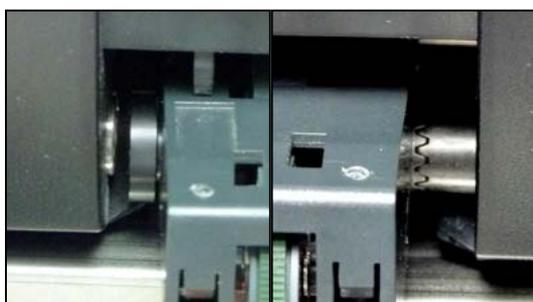
For the cleaning or replacement (*next chapter*) of the Feeder Roller Friction Linings, it is necessary to remove the Roller Assembly. For this, a unlocking for the holder is attached on the left next to the Roller Assembly. To dismantle the unlocking pin is pushed to the left and held in this position while the Roller Assembly is swung out to the right.



To remove the Input Rollers, the Assembly is taken in hand with the rollers upwards and the two locking hooks forward. Now press both hooks in succession forward while gently pressed from below with the finger against the Input Roller so that the Housing Roller Assembly can be unfolded.

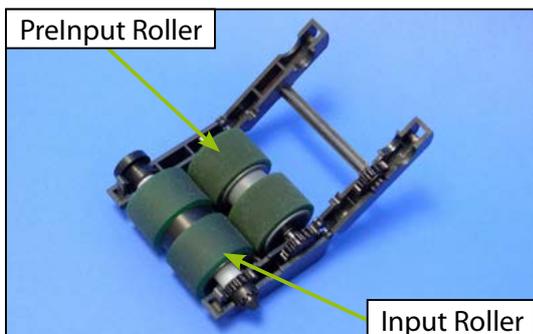


To clean, a lint-free cloth is soaked with some SCAMAX® SV1A Cleaning Solution for Rubbers & Belts and thus rubbed over each lining of the two Input Rollers until the adherent dirt is removed and the lining has a good grip again. After that, allow the Input Rollers to dry at least 10 minutes, then put them back into the Housing Roller Assembly and lightly press the two housing halves together until both locking hooks engage into place.



To install the Assembly, the unlocking pin, as described at the beginning of this chapter, pushed to the left and held firmly. Now insert the Roller Assembly in a possibly horizontal alignment with the right spur gear first, onto the counterpart on the drive shaft and then swivel the left side, so that the rotating ring of the bracket when returning the unlocking pin slides into the left, plate-shaped receptacle of the Roller Assembly.

### 7.2.2. Replacing the Feeder Roller Friction Linings



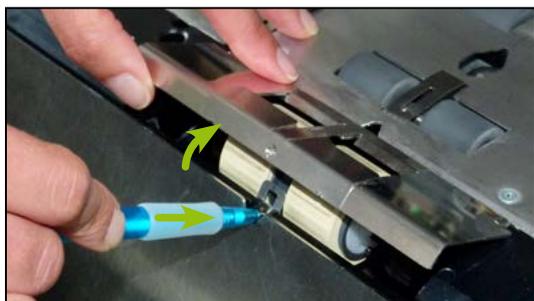
If occurring feeder error (*see chapter 9.2.7.*) due to wear and can no longer be fixed by cleaning the linings as described in the previous chapter, then the Feeder Roller Friction Linings should be replaced. It may already be enough to replace the linings of the PreInput Roller, that are subject to greater wear, with new linings, or to exchange it with the linings of the Input Roller, if identical lining types (*see chapter 3.1.*) are used. The exchange must always be in pairs.



For the exchange of linings the Roller Assembly must first be removed and opened as described in the previous chapter. Now take the respective Input Roller from the housing and pull off existing linings laterally, left and right from the roller and fit the new linings on until they are completely in the designated area of the roller. Because of the flexible material of the linings both removal as well as fitting on the linings is possible without special force application. After exchange of the linings, place the Input Rollers into the housing, close this and

install it in the scanner, as described in the previous chapter.

### 7.2.3. Cleaning the Separation Roller Friction Linings



A rising level of Double Feed Inputs (*see chapter 9.2.14.*) is often a sign that the Separation Roller Friction Linings should be cleaned. To do this, open the Scan Plane of the device (*see chapter 6.1.*) as much as necessary and press with a pen or the like on the lock of the Cover Separation Roller to fold it open. Now the Separation Roller can be removed easily from its holder.



To clean, a lint-free cloth is soaked with some SCAMAX® SV1A Cleaning Solution for Rubbers & Belts and thus rubbed over each lining of the Separation Roller until the adherent dirt is removed and the lining has a good grip again. Then let the Separation Roller to dry for at least 10 minutes



For installation, slide the Separation Roller with the lateral guides back to the holder, close the Cover Separation Roller and lock it up with light pressure.

### 7.2.4. Replacing the Separation Roller Friction Linings

For the exchange, the Separation Roller must be removed beforehand as described in the previous chapter. Since there is a much harder material used for the linings of the Separation Roller as for



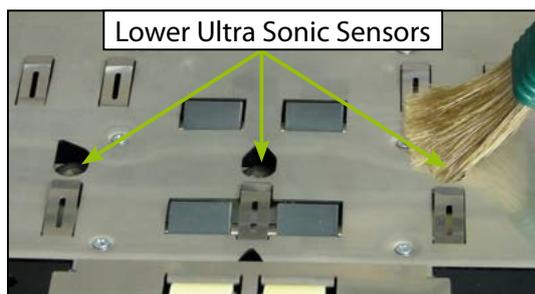
the Feeder Roller Friction Linings (*see chapter 7.2.2.*), It is necessary to press the linings with your thumb around, outwards over the bead of the plastic carrier before they can be pulled sideways. When sliding the new linings (*see chapter 3.1.*) it must be ensured that they are completely on the roller in the guides. The installation of the Separation Roller is carried out again as described in the previous chapter.

## 7.3. Cleaning/Maintenance of the Scan Plane

Since paper and ink get deposited in the device during scanning, but partly also small paper parts and other residues, it makes sense that the Scan Plane and some specific areas are cleaned periodically. The frequency per area is dependent on the kind of documents to be processed. To do this, use only the specified cleaning devices like dust brush, damp cloth or vacuum cleaner meant for this. **Never use compressed air! You should also refer to the note in chapter 7.**

For cleaning activities in the Scan Plane, it should always be completely open (*section 6.1.*). To clean the area, wiping the surfaces with a soft cloth is sufficient. If adherent residues are on the sheet metal parts within the scan plane (*e.g. adhesive*), this may be removed with the SCAMAX® SV1A Cleaning Solution for Rubbers & Belts.

### 7.3.1. Cleaning the Ultra Sonic Sensors



Since the Ultra Sonic Sensors for Double Feed Detection in the front area of the Scan Plane are fitted somewhat lower, it is especially important for the lower sensors that they tested at regular intervals for deposits and most easily cleaned using the dusting brush (see chapter 3.1.). If the sensors are too dirty or there are residues on them, this could lead to incorrect Double Feed Detections.

### 7.3.2. Cleaning the Scan Areas



The Scan Areas for front and back side, as the respective Scan Background, are covered dust-protected with very scratch-resistant Glass Guides. Therefore surface cleaning of the Glass Guides with a soft cloth is normally sufficient. Should adherent residues be on the Glass Guides, these should be removed with SCAMAX® Cleaning Solution for Optics.

### 7.3.3. Vacuum Cleaning Below the Scan Plane

As mentioned at the beginning of the main chapter, accrued dust and other impurities should be sucked from the scanner at intervals basis (*vacuum cleaner - Order No: s 910 0020*).



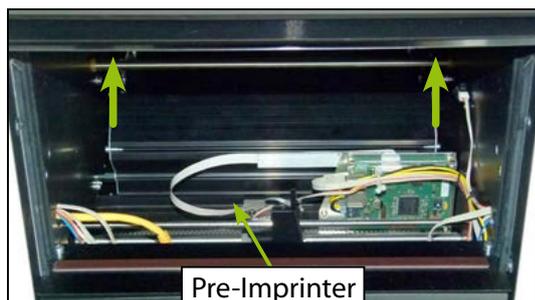
Since most residues deposit at the beginning of the paper transport path as experience has shown, the area below the Scan Plane thereof is mostly affected. In order reach this point, the Front Pressure Unit, the area between feeder and scan areas, must be removed. To do this, the Pressure Unit is lifted behind on the side-mounted retaining brackets and then it is removed completely from its holder. Since this is a metal part, a small force is needed. Now, using the dust brush, sweep the accumulated paper or ink dust and scraps of paper, staples or the like from the visible areas and vacuum clean. It should be ensured that the existing connections are not detached or damaged by mistake during the cleaning process. Then install the Pressure Unit again by being taken with the brackets and first lodged with the leading edge into their holder.

## 8. Imprinter

Through the two integrated imprinters it is possible to print the front and/or back of the scanning material with a variety of information. The print is always one lined in the scanning direction. Both imprinters operate completely independently of each other and can therefore print different information at different times (*events*). The configuration of imprinter texts and the printer control is performed within the Profile Management (see chapter 4.5.5.).

### 8.1. Front Side Print Before Scanning (Pre-Imprinter)

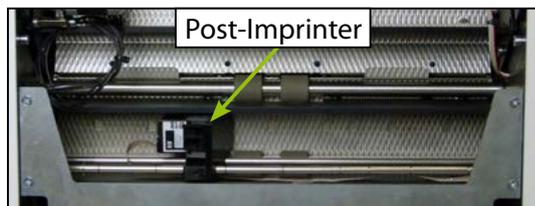
As can be seen in the chapter heading, information can be applied to the front of the scan documents with the so-called Pre-Imprinter **prior to** scanning. This also means that these printed information can also be seen on the images of the scanned documents. If not desired, the Post-Imprinter (*next section*) should be used instead.



The Pre-Imprinter is located below the tray plate of the Output Tray of the Output Hopper, behind the gaiter mounted there. This is kept at the bottom by a magnetic tape and can be pushed up in order to obtain access to the Pre-Imprinter. For this purpose, the tray plate should be in the top position. When lowering the gaiter it must be ensured that they run laterally in the guide rails again.

### 8.2. Back Side Print After Scanning (Post-Imprinter)

In contrast to the Pre-Imprinter, the Post-Imprinter is printing the information only on the rear side of the documents after scanning so that the information cannot be seen on the images of the scanned documents.



The Post-Imprinter is located on the rear panel of the device, below the Cover Output Hopper (see chapter 6.3.), which must be removed to gain access to the Post-Imprinter.

#### Notice

*Due to the structural arrangement of the Post-Imprinter, documents that are deposited in the Rear Output Tray (see chapter 5.6.6.) can not be printed on the back side.*

### 8.3. Ink Cartridge of the Imprinter



Both Imprinters use conventional ink jet cartridges from Hewlett Packard (*Manufacturer no. C6602A*), which are available in different inks. These ink cartridges are characterized by high reliability, ease of use and worldwide availability. The ink cartridge is mounted in each case in a spring-loaded holding device. The left image shows the mounting of the Pre-Imprinter.

### 8.3.1. Installation/Change of an Ink Cartridge



To remove and install the ink cartridge of an Imprinter, the access to the respective holder has to be established (see chapter 8.1. / 8.2.). Hold the ink cartridge on the provided plastic tab and detach it laterally from its bracket. Now, the ink cartridge can be removed. The insertion is carried out in reverse order. Here, it must be ensured that the suspension bracket is locked properly.



At the Post-Imprinter, the ink cartridge holder must be moved completely right on its guide rods and lifted from the subsoil by a slightly pull of the outer guide rod **prior to** remove or insert the ink cartridge like described above.

#### Notice

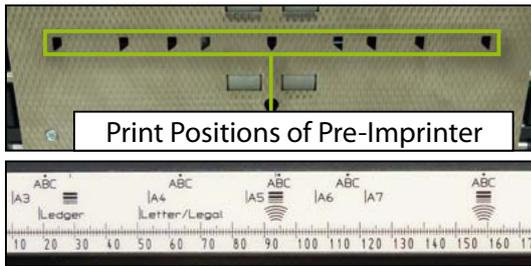
*If the ink cartridge is removed in order to replace it with a new one, this should be done with an active device, so that the level can be reset. After inserting the ink cartridge a prompt appears on the display with the opportunity to put the ink reservoir again at 100% via a button, thereby indicated the use of a new ink cartridge or to keep the amount of ink on the current value, when the ink cartridge, for example to control or clean, was removed and reinstalled.*

### 8.3.2. Capacity of the Ink Cartridges

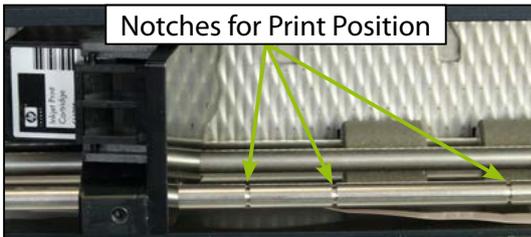
Based on the amount of printed information, the amount of ink consumed is calculated (in droplets) per Imprinter and recorded and thus the remaining ink levels are saved. If the amount of an ink cartridge falls below 10%, after turning on the scanner, a corresponding warning appears in the display indicating the current ink reservoir of each imprinter. As the amount of ink fluctuates slightly due to production, it can happen that an ink cartridge despite specifying an ink quantity of 0% still prints or is already empty, although the amount is above 0%.

The achievable number of printable characters per ink cartridge varies at different scanning speeds. Here, the higher the speed, the less ink is consumed per character and the more characters can be printed per cartridge. Depending on the scanning speed, using the default font (see chapter 4.5.6.1.3.), between about **1.6** and **2 million** characters can be printed. This corresponds to an average of **20** characters per sheet at a printing capacity of **80,000 -100,000** documents.

## 8.4. Choice of Print Position



Both Imprinters have **nine** different horizontal print positions, of which one is in the middle and the remaining eight are left and right in the edge region of the DIN formats A6, A5, A4 and A3. These positions are also marked on the scale in the Input Hopper with the script **ABC** in order that, if necessary, to adjust the document path to the selected printing position with the present Paper Guides. (see [chapter 5.3.1.](#) / [5.6.1.](#))



The holder of the ink cartridge for the two imprinters runs on two guide rods on which it is manually adjustable. In order to always position the ink cartridge exactly above the desired pressure port, one of the respective guide rods is provided with notches into which the print cartridge locks in audibly.

## 9. Disruptions

When using high-performance scanners, disruptions may at any time suddenly occur and lead to different warning or error messages. With H12 type scanners, the cause is determined as precisely as possible by high-performance sensors and a meaningful message is issued with partial graphic on the scanner display. Such messages can be reduced into the top left status area by tapping on a display area outside of the message window. Tapping the status area with a message opens the corresponding message box. The message box contains the associated warning or error number in the first line. Since, especially in the event of an error, the same message can have various causes, the error number is of great importance for a precise analysis in support calls. If the message window is open and the Help button in the upper right corner of the touch screen is pressed, the extended description of the displayed warning, or error number will open (*see the following chapter*).



Warning messages are always displayed **yellow** and partly initially only in the status area. They can be highlighted by internal routines, or by conditions that would prevent a subsequent Scanstart. A warning is automatically cleared when the underlying cause has been completed or corrected.



Error messages are always displayed in the display area, in conjunction with **red** colored status area. During scanning, an error message is always accompanied by the interruption of the scanning process. In addition to the error number, the short description of the error and its correction, the message box often contains a graphical representation on the left side (*with contrasting paper path*). The area in which the error occurred, is marked by a red dot. An error message may, depending on the cause, contain function button, and must be closed

with the **OK** button after removing the cause. Error messages without **OK** button represent an unrecoverable state that can only be corrected by restarting the scanner. If errors are not be remedied by the measures specified in each case, the service engineer or technical support of InoTec GmbH (*see chapter 10.3.*) is to be notified.

### 9.1. Warning Messages

Various warning messages are pointed out below, which can occur during device initialization or handling of the scanner.

#### 9.1.1. Scanner Open (Warning 100)



This warning will be displayed first only in the status area upon occurrence and means that the Scan Plane of the scanner is not properly closed. To eliminate the warning, the Scan Plane must be properly closed (*see chapter 6.1.*). Trying to start a scan process in this state, leads to a similar error message (*see chapter 9.2.1.*).

### 9.1.2. (2nd) Output Hopper Open (Warning 101/102)



These warnings appear initially only in the status area, meaning that the Output Hopper or the 2nd Output Hopper is not closed properly. To eliminate the respective warning, the Output Hoppers must be properly closed (*see chapter 6.2.*). Trying to start a scan process in this state, leads to a similar error message (*see chapter 9.2.2.*).

### 9.1.3. Roller Assembly Incorrectly Installed (Warning 103)



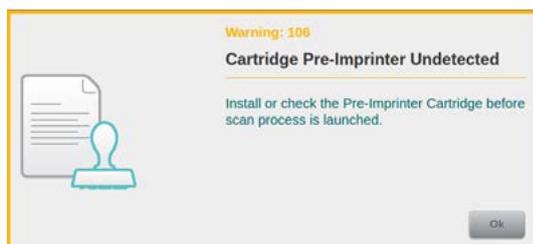
This warning appears initially only in the status area and means that the Roller Assembly was not installed at all or not correctly installed. To eliminate the warning it must be proved whether the Roller Assembly is properly seated in its holder (*see chapter 7.2.1.*). Trying to start a scan process in this state, leads to a similar error message (*see chapter 9.2.3.*).

### 9.1.4. Upper/Lower HS Stacker Arm in Wrong Position (Warning 104/105)



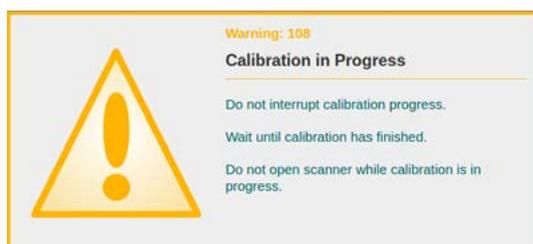
These warnings appear initially only in the status area, meaning that the concerned HighSpeed Stacker Arm is not in the position required to operate the current output mode (*see chapter 5.6.3.*). To eliminate the respective warning the concerned HighSpeed Stacker Arm must be folded in the required position. Trying to start a scan process in this state, leads to a similar error message (*see chapter 9.2.4.*).

### 9.1.5. Cartridge Pre/Post-Imprinter Undetected (Warning 106/107)



These warnings are displayed only when the loaded scanner setting includes the use of the respective Imprinter and its ink cartridge is not available. In order to eliminate the warning, the right seat of the respective ink cartridge must be tested (*see chapter 8.3.1.*). Trying to start a scan process in this state, leads to a similar error message (*see chapter 9.2.5.*).

### 9.1.6. Calibration in Progress (Warning 108)



This warning means that the scanner is currently in a calibration process. In this state, the device may not be opened or turned off. The warning disappears as soon as the calibration is complete. If the calibration failed, an error message appears (*see chapter 9.2.17.*).

### 9.1.7. (2nd) Output Tray Full (Warning 109/110)



These warnings mean that the Output Tray of the Output Hopper or the 2nd Output Hopper has reached its maximum tray height (see [chapter 5.6.](#)). To eliminate the warning, the documents must be removed from the concerning Output Tray. Trying to start a scan process in this state, leads to a similar error message (see [chapter 9.2.6.](#)).

### 9.1.8. Base Cover Opened (Warning 111)



This warning appears initially only in the status area, pointing out that the Base Cover is not properly closed. To eliminate the warning, it must be checked whether the Base Cover is installed properly (see [chapter 6.5.](#)). Trying to start a scan process in this state, leads to a similar error message (see [chapter 9.2.24.](#)).

### 9.1.9. Cover (2nd) Output Hopper Opened (Warning 112/113)



These warnings appear initially only in the status area and point out that the Cover Output Hopper or 2nd Output Hopper is not properly closed. To eliminate the respective warning, it must be checked whether the appropriate Cover is installed properly (see [chapter 6.3.](#)). Trying to start a scan process in this state, leads to a similar error message (see [chapter 9.2.25.](#)).

### 9.1.10. Changing Straight Through Paper Path (Warning 114)



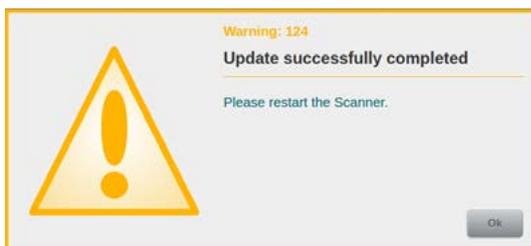
These warnings appear as long as the "Straight Through Paper Path Elevation" option is enabled or disabled, as the raising or lowering of the Scan Plane lasts a few seconds. A scanning process cannot be started during this process.

### 9.1.11. .... in Secured State (Warning 115 - 123)



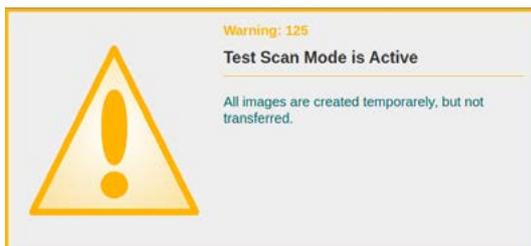
Warning codes in the range of 115 to 123 are initially displayed in the status area. They indicate that certain parts of the system firmware could not be fully initialized and that these are now operating in secure mode. In order to correct this situation, the offending firmware needs to be updated (see [administrator's manual](#)). If the error occurs again, the service engineer or the technical support of InoTec GmbH (see [chapter 10.3.](#)) is to be notified.

### 9.1.12. Update (Warning 124)



This warning indicates the successful completion of a firmware update (see administrator's manual). The scanner will need to be re-started, before it can be used for further work. Please note that the scanner will need to be fully cycled using the main power switch. Operating the **Quick Stop**  button (see [chapter 3.5.](#)) is not sufficient.

### 9.1.13. Test Scan Mode is active (Warning 125)



This warning is initially displayed in the status area and indicates that TestScan mode has been entered. TestScan mode may be initiated and cancelled using the **TestScan** function button (see [chapter 4.5.3.3.2.](#)). For as long as TestScan mode is active, no images are transmitted to any attached scan software .

### 9.1.14. Rear Output Active (Warning 127)



This warning will be displayed if the paper-guide was pointing to the rear-output tray, during a paper jam. Paper jams should always be resolved according to the General Paper Jam Handling (see [chapter 9.2.](#)). Therefore, this warning only serves as a hint, indicating that documents might have been mistakenly ejected into the rear paper tray, when the paper path was flushed.

## 9.2. Error Messages

In the following various error messages are shown, which may occur during device initialization or handling of the scanner.

Especially with paper jam messages that are determined by the continuous transport path sensors, independently of the nature of the reported paper jams, please note the following **General Paper Jam Handling** after fixing according to its position and before anew Scanstart:

1. Documents that are still in the transport path must be transported out, as this will cause subsequent errors. To this end, the button **transport** is offered in the message, which only moves the paper as the button is pressed. Fixed documents can thus be largely protected from damage.
2. Via the image display or in the connected scanning software, the final document is to be determined, which was still being processed properly. All subsequent document shall be put back into the Input Tray.

Finally, it should be noted that the reported jams are often not actual jam error, but a document that got stuck in the transport possibly only briefly. This type of paper jam can be usually eliminated without opening the scanner, via the button **transport** (see above)

### 9.2.1. Scanner Opened While Scanning (Error 200)



This error is displayed when the Scan Plane has been opened on the device during scanning or it was not properly closed at Scanstart. To fix the error, the Scan Plane must be properly closed (see chapter 6.1). Before anew Scanstart, documents that may still be in the transport passage should be removed, since otherwise subsequent errors occur.

### 9.2.2. (2nd) Output Hopper Open (Error 201/202)



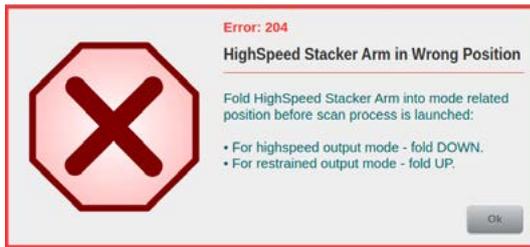
These errors are displayed when the Output Hopper on the device was opened during scanning or the 2nd Output Hopper was not properly closed at Scanstart. To eliminate the respective error, the Output Hoppers must be properly closed (see chapter 6.2). Before anew Scanstart, documents that may still be in the transport passage should be removed, since otherwise subsequent errors occur.

### 9.2.3. Roller Assembly Incorrectly Installed (Error 203)



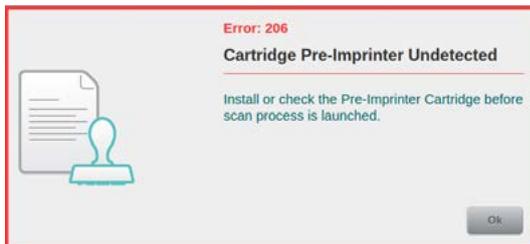
This error is displayed when on the device during the scanning process, the Roller Assembly has jumped from its holder or an attempt was made to start a scan process without Roller Assembly. To fix the error, it must be checked whether the Roller Assembly is installed or whether it sits correctly in its holder (see chapter 7.2.1). Before anew Scanstart, documents that may still be in the transport passage should be removed, since otherwise subsequent errors occur.

### 9.2.4. Upper/Lower HS Stacker Arm in Wrong Position (Error 204/205)



These errors are displayed when a scan process was started and the corresponding HighSpeed Stacker Arm was not in the position to operate the current output mode (see [chapter 5.6.3.](#)), or it was folded from the required position during operation. To eliminate the respective error, the respective HighSpeed Stacker Arm must be folded in the required position. Before a new Scanstart, documents that may still be in the transport passage should be removed, since otherwise subsequent errors occur.

### 9.2.5. Cartridge Pre/Post-Imprinter Undetected (Error 206/207)



These errors are displayed only when the loaded scanner setting provides for use of the respective imprinter and its ink cartridge is not available at Scanstart. In order to eliminate the respective error, the right seat of the respective ink cartridge must be tested (see [chapter 8.3.1.](#)), before the scanning process can be started again.

### 9.2.6. (2nd) Output Tray Full (Error 208/209)



These errors are displayed when the Output tray of the Output Hopper or the 2nd Output Hopper has reached its maximum tray height (see [chapter 5.6.](#)). To eliminate the respective error, the documents must be removed from the concerning Output Tray before scan process can be started again.

### 9.2.7. Paper Jam at Paper Input (Error 210)



This error indicates a paper jam that occurred in the input area. This is the case when a document could not be properly drawn in by the Roller Assembly. To correct the error, the jammed scan material must be removed. For this, the Scanner Upper Section is raised via the button **open** in the error message until the first stage. After closing the Scan Plane (see [chapter 6.1.](#)) and before Scanstart anew, proceed according to General Paper Jam Handling (see [chapter 9.2.](#)).

#### Notice

*This error code may also appear when glossy documents are processed (i.e. documents with a highly reflective surface across their full width, such as glossy prints or documents with a strip of adhesive tape across them). In order to prevent this, the optical gap sensors in the scanner's input section can be turned off. This may either happen for the next document in line, using the special control key **Opt. Gap next off** (see [chapter 4.5.3.3.2.](#)), or permanently, if a certain proportion of all incoming documents has a glossy surface (see [chapter 4.5.3.3.6.](#)).*

### 9.2.8. Paper Jam at Scan Area (Error 211/237/238/239/240)



These errors indicate a paper jam that has occurred within the scan area. In order to correct the error, the Scanner Upper Section must be lifted (*see chapter 6.1.*) until the jammed scan material can be removed from the Scan Plane. After closing the Scan Plane and before anew Scanstart, proceed according to General Paper Jam Handling (*see chapter 9.2.*).

### 9.2.9. Paper Jam at Rear Output (Error 212)



This error indicates a paper jam occurred in the rear Output area. In order to correct the error, the Scanner Upper Section must be lifted (*see chapter 6.1.*) until the jammed scan material can be removed from the Scan Plane. Under certain circumstances the Rear Output Pressure Unit must be removed (*see chapter 6.6.*). After closing the scanner and before anew Scanstart, proceed according to General Paper Jam Handling (*see chapter 9.2.*).

### 9.2.10. Paper Jam at Lower Transport Path (Error 213/214)



This error indicates a paper jam that occurred in the displayed transport area. By "lower" the transport area between the Scan Plane and Output is meant, with "upper" the transport area between the lower transport area and 2nd Output. To fix the error, the respective Output Hopper must be opened (*see chapter 6.2.*), so that the jammed scan material can be removed from this part of the transport area. For jamming in the upper transport

area it may also be necessary for this purpose, to open the Intermediate Drive Unit (*see chapter 6.4.*). After closing the Output Hopper and before anew Scanstart, proceed according to General Paper Jam Handling (*see chapter 9.2.*).

### 9.2.11. Paper Jam Before (2nd) Paper Output (Error 215/216)



These errors indicate a paper jam, which occurred prior to the paper outputs. To eliminate the respective error, the corresponding Output Hopper in question must be opened (*see chapter 6.2.*), so that the jammed scan material can be removed from this part of the transport area. After closing the Output Hopper and before anew Scanstart, proceed according General Paper Jam Handling (*see chapter 9.2.*).

### 9.2.12. Paper Jam Inside (2nd) Output Tray (Error 217/218)



These errors indicate a paper jam that has occurred within the designated Output Tray. These errors can only occur when the HighSpeed Stacker Arm is used because due to a fault in the Highspeed Output Mode, the Jam Sensor of the relevant Stacker Arm (*see chapter 5.6.2.*) has triggered. To eliminate the respective error, the documents in the tray in question must be well ar-

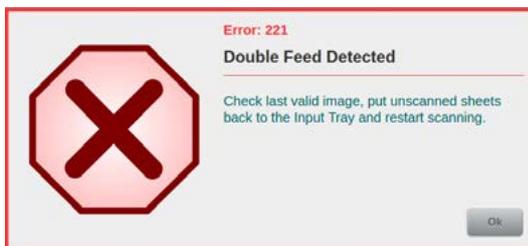
ranged. Before anew Scanstart, proceed according to General Paper Jam Handling (see chapter 9.2.9.2.).

### 9.2.13. Paper Jam Inside (2nd) Output Tray (Error 219/220)



These errors indicate a paper jam that has occurred within the designated Output Tray. These errors are caused by the fact that documents in the corresponding Output Tray have slipped under one of the lateral Paper Guides while tray plate was lifted (see chapter 5.6.1.). To eliminate the respective error, the documents in the tray in question must be well arranged. Before anew Scanstart, proceed according to General Paper Jam Handling (see chapter 9.2.).

### 9.2.14. Double Feed Detected (Error 221)



This message appears when a double feed was detected during the scan process and the Reaction at Detection (see chapter 4.5.3.1.) is set to **Error** or **Transfer**. In this case, the last valid scanned document is to be determined via the Image Display or in the connected scanning software. The following documents, which have caused the double feed error, are to be put back into the Input Tray before the scanning process is started anew.

### 9.2.15. Button Quick-Stop Pressed (Error 222)



This message appears when the red button **Quick-Stop**  (see chapter 5.4.) at the Input Hopper has been pressed. In this case, the reason for the Quick-Stop is to be eliminated and before anew Scanstart, proceed according to General Paper Jam Handling (see chapter 9.2.).

### 9.2.16. Switch Input Hopper Failed (Error 223)



This error is displayed when the Input Tray change failed at a device with Dual Input Hopper. This happens when there are obstacles in the movement area of the Dual Input Hopper, or the Input Tray change was manually blocked otherwise. In this case, the reason for the blockade (*Obstacles, jammed documents or similar*) is to be eliminated and via the button **OK** in the error message, an initialization of the Dual Input Hopper to be started.

### 9.2.17. Calibration Failed (Error 224)



This error indicates that a calibration procedure (see *Administration Manual*) initiated before could not be carried out properly. For further steps the enforcing administrator or service engineer is to be notified.

### 9.2.18. Paper Inside Paper Input (Error 225)



This error indicates that a scan process has been started, although documents are still in the input area of the scanner. This happens when according to a previous error, this area has not been cleared. To fix the error, before anew Scanstart, proceed according to General Paper Jam Handling (see [chapter 9.2.](#)). If the error is not eliminated that way, it may also indicate that scraps of paper, staples or the like are stuck in the input area. Please clean this area thoroughly (see [chapter 7.3.](#)).

### 9.2.19. Paper Inside Scan Area (Error 226)



This error indicates that a scan process has been started, although documents are still in the Scan Area of the scanner. This happens when according to a previous error, this area has not been cleared. To fix the error, before anew Scanstart, proceed according to General Paper Jam Handling (see [chapter 9.2.](#)). If the error is not eliminated that way, it may also indicate that scraps of paper, staples or the like are stuck in the Scan Area or the Glass Guides are soiled. Please clean this area thoroughly (see [chapter 7.3.2.](#)).

### 9.2.20. Paper Inside Rear Output Area (Error 227)



This error indicates that a scan process has been started, although documents are still in the Rear Output Area. This happens when according to a previous error, this area has not been cleared. To fix the error, before a new Scanstart, proceed according to General Paper Jam Handling (see [chapter 9.2.](#)). If the error is not eliminated that way, it may also indicate that scraps of paper, staples or the like are stuck this area. Please clean this area thor-

oughly. Under certain circumstances the Rear Output Pressure Unit must be removed (see [chapter 6.6.](#)).

### 9.2.21. Paper Inside Upper/Lower Transport Path (Error 228/230)



This error indicates that a scan process has been started, although documents are still in the respective transport area of the scanner. By "lower" the transport area between the Scan Plane and Output is meant, with "upper" the transport area between the lower transport area and 2nd Output. This happens when according to a previous error, this area has not been cleared. To fix the error, before anew Scanstart, proceed according to General Paper

Jam Handling (see [chapter 9.2.](#)). If the error is not eliminated that way, it may also indicate that scraps of paper, staples or the like are stuck in the respective area. Please open the corresponding Output Hopper (see [chapter 6.2.](#)) and thoroughly clean the area. When errors occur in the upper transport area, it may also be necessary for this purpose to open the Intermediate Drive Unit (see [chapter 6.4.](#)).

**9.2.22. Paper Inside (2nd) Output Area (Error 229/231)**



These errors indicate that a scan process has been started, although documents are still in the respective paper output area of the scanner. This happens when according to a previous error, this area has not been cleared. To fix the error, before anew Scanstart, proceed according to General Paper Jam Handling (see chapter 9.2.). If the error is not eliminated that way, it may also indicate that scraps of paper, staples or the like are stuck in the

respective area. Please open the corresponding Output Hopper (see chapter 6.2.) and thoroughly clean the area.

**9.2.23. Input Tray(s) Not Installed Properly (Error 232)**



This error is displayed when one of the Input Plates is not properly inserted in the Single or Dual Input Hopper while the scanner gets initialized. In this case, check the existing Input Plates for correct seat and via the button **OK** in the error message re-initialize the Input Hopper.

**9.2.24. Base Cover Opened (Error 233)**



This error appears when the Base Cover of the device was opened during the scan process or an attempt was made to start a scan process, even though the Base Cover is not properly closed. To fix the error, it must be ensured that the Base Cover is installed correctly (see chapter 6.5.).

**9.2.25. Cover Output Hopper (Top) Opened (Error 234/235)**



These errors are displayed when one of the Covers Output Hopper of the device was opened during the scan process or an attempt was made to start a scan process even though one of the Covers Output Hopper was not properly closed. To fix the error, it must be ensured that the Cover Output Hopper or the Cover 2nd Output Hopper is properly installed (see chapter 6.3.).

**9.2.26. Firmware Update Failed (Error 236)**



This error indicates that a firmware update (see Administration Manual) initiated before could not be carried out properly. For further steps the enforcing administrator or service engineer is to be notified.

**9.2.27. Stepper Driver Overheated (Error 241)**



This error code will be shown if one of the motor-driver assemblies has been overloaded. In order to remove this error condition, you will need to turn off the scanner for several minutes. Before starting the next scanning process, you may want to check the paper path for foreign bodies that might have obstructed the paper transport mechanism. If the error occurs again, the service engineer or the technical support of InoTec GmbH (see [chapter 10.3.](#)) is to be notified.

**9.2.28. Patch Detection Inconsistency (Error 242)**



Patchcode detection is not only performed by the scanner's camera, but also by optical sensors in the scanner's document input section. This error code appears if differing patchcode values are returned by both methods. The offending patchcode sheet should be examined for quality issues and replaced, if necessary. Before anew Scanstart, proceed according to General Paper Jam Handling (see [chapter 9.2.](#)).

**9.2.29. Error while Opening/Closing the Scan Plane (Error 243)**



This error code will be shown if the control circuit responsible for opening and closing the Scan Plane (see [chapter 6.1.](#)) has detected a problem. After acknowledging the error message, you should check the mechanism by fully opening and closing the Scan Plane, at least once. If the error occurs again, the service engineer or the technical support of InoTec GmbH (see [chapter 10.3.](#)) is to be notified.

**9.2.30. Scanner Hardware is Overheating (Error 244)**



This error code will be shown if either the main control board or one of its subassemblies have started to overheat. Before turning off the scanner to let it cool down, please check that the air intake below the rear output tray is unobstructed and that all ventilation fans are operating as expected. If the error occurs again, the service engineer or the technical support of InoTec GmbH (see [chapter 10.3.](#)) is to be notified.

**9.2.31. Scanner Hardware is Overheated (Error 245)**



This error code will be shown if the previous occurred error code 244 was ignored and either the main control board or one of its subassemblies have reached a critical temperature level. 10 seconds after flashing this error code, the scanner will turn itself off and should be kept switched off, for several minutes. If the error occurs again afterwards, the service engineer or the technical support of InoTec GmbH (see [chapter 10.3.](#)) is to be notified.

### 9.3. Internal Warning/Error Messages > 800



If a warning or error message is displayed, whose number is greater than 800, an unexpected condition exists. The scanner must be restarted mostly in this case. If the state cannot be eliminated, the service technician or technical support of InoTec GmbH (see [chapter 10.3.](#)) is to be notified.

### 9.4. Hardware Error Messages > 900



If a warning or error message with a number higher than 900 is displayed, then this is probably caused by a hardware defect which can neither be resolved by re-starting the scanner nor by applying other measures of your own. In order to resolve the problem, you should contact a service technician or technical support at InoTec GmbH (see [chapter 10.3.](#)), under all circumstances.

## 9.5. Image Disruptions

In many cases, image disruptions can be eliminated by cleaning the Scan Areas (*see chapter 7.3.2.*) or possibly by a White Calibration (*Contact administrator*). If both actions are carried out unsuccessfully, other causes and their elimination are listed in the following passage

### 9.5.1. Poor Image Quality

**Error:** Smaller letters or characters are digitized mutilated or chunky.

**Cause 1:** Incorrect settings in the scan profiles.

**Remedy 1:** Check the image settings in the scan profiles, including brightness, contrast or gamma values.

**Cause 2:** Unfavorable color of documents. Background and character colors do not have enough contrast (at B/W images).

**Remedy 2:** Use of color filter features is recommended.

**Cause 3:** LED Illumination Unit is soiled or partially damaged, so that a uniform illumination is no longer provided.

**Remedy 3:** Please contact your service technician.

**Cause 4:** Maladjusted or defective Camera Module.

**Remedy 4:** Please contact your service technician.

### 9.5.2. Lines in the image

**Error:** Scanned B/W images have black or white, color images also colored, vertical stripes.

**Cause 1:** Hanging scraps of paper, staples or the like in the Scan Plane or soiled Glass Guides of the scan area.

**Remedy 1:** Open scanner, remove any residue, clean Glass Guides.

**Cause 2:** LED Illumination Unit is soiled or partially damaged, so that a uniform illumination is no longer provided.

**Remedy 2:** Please contact your service technician.

**Cause 3:** Scan CCD soiled or defective.

**Remedy 3:** Please contact your service technician.

## 10. Attachments

### 10.1. Technical Specification

The table below shows the technical specifications of the H12 scanner type. Please note that the information on paper weight and thickness may vary depending on surface finish and flexibility. Consumption and noise levels vary by model.

Optics/Internal Image Processing	
Scanning Method	CCD line camera
Optical Resolution	600 dpi
Output Resolutions	150 / 200 / 300 dpi (75 / 100 / 400 / 600 dpi in preparation) (dual or multi resolution in preparation)
Output Compressions	CCITT Group IV, JPEG or uncompressed output
Illumination	Diffuse LED Illumination Unit
Binarisation Method	dynamic with pixel filters and result preview
Gray Image	8-Bit, 256 gray levels
Color Image	24-Bit, 16.8 million colors ( <i>True Color</i> )
Image Orientation	bi-cubic skewness correction with black border removal and text-oriented alignment
Gamma Correction	3-level correction ( <i>color, black, white</i> )
Color Filter Standard	DropOut Color Red / Green / Blue / Mix / Dominant (in preparation)
Optional Color Filter	Digital mixed color filter with profiles (in preparation)
Indexing	Sequential ID and user-definable event controlled counters for document indexing, integrated patch code decoder, image marker ( <i>Flag</i> )

Paper Processing	
Output Feed	automatically for batch or single sheet input, adjustable paper guide ( <i>asymmetric</i> ), integrated support for long documents. Optional: Dual Input Hopper for continuous processing.
Max. Stack Height	100 mm ( <i>approx. 1000 sheets at 80 g/m<sup>2</sup> paper</i> ), defined via profile
Document Width	28 mm to 317.5 mm
Document Length	60 mm to 2075 mm
Standard Formats	ISO formats: A3, A4, A5, A6, A7, B4, B5, B6, B7 US formats: Ledger, Legal, Letter, Executive, Invoice
Maximum Output Thickness	2.0 mm - Optional: up to 5 mm passage height
Paper Weight	30 g/m <sup>2</sup> to 280 g/m <sup>2</sup>
Feed Detection	Mechanical paper separation, Paper Input Detection via five optical sensors and double sheet control via three, separately controllable, ultrasonic sensors
Passage Control	Paper Flow Control ( <i>PFC</i> ) with optional length control
Scan Areas	Dust-free encapsulated by Xensation™ cover, variable height with black or white Scan Background

<b>Paper Processing</b>	
Output Hopper	Automatic deposit up to 120 mm stack height with active air extraction, adjustable Paper Stop, asymmetrically adjustable paper guides and shelf extension for long outputs (>A4). Rear Output Tray for the rejecting of separator sheets or the deposit of inflexible templates (Straight Through Paper Pass). Optional: High-Speed Stacker Arm for fast scanning speeds and 2nd Output Hopper for continuous processing
Imprint	Two integrated inkjet imprinter with ink management for definable print prior to scanning on output front side and after scanning on output back side.
Bates Stamping	Electronic image stamping, freely definable or with respect to the printed information of imprinters ( <i>in preparation</i> )
Daily Volume	unlimited

<b>Interfaces</b>	
Operation	via Capacitive Touchscreen
Display	Optional: Flat screen for image representation in self-sufficient operation
LAN Port	RJ45 Gigabit Ethernet - for data transfer in self-sufficient operation
Input/Output	3x USB 2.1 ( <i>socket type A</i> ) for input devices/storage media
PC Connection	USB 3.0 ( <i>socket type B</i> ) for control via scan PC via driver /
Driver	TWAIN® (ISIS™ <i>in preparation</i> )
Supported OS	Windows 7/8/10 (32/64 Bit)
Internal Operating System	Embedded Linux
Service Port	Sub-D socket 9-pin (RS-232) for service cable or foot switch

<b>Technical Data</b>	
Power Consumption	500 - 800 watts, power saving mode < 1 Watt
Electrical Connection	100 - 240 Volt - 50/60 Hz - max. 8 Amp. (at 115 Volt)
Environmental Conditions	Temperature 10 - 35°C relative humidity 30-80%
Dimensions	Width: 1280 mm (ready to use) / 720mm (without fittings) Depth: 1330 mm / 1150 mm (with / without Rear Output Tray) Height Basic model: min. 1070mm / max. 1530mm Height Expansion stage: min. 1070mm / max. 1530mm Working height Shelf/Feeder: min. 640 mm / max. 1100mm
Weight	from 190 kg (Basic model) to 240 kg (Expansion stage)
Noise Emission	Operation ready: 57 dB (A) / Operation: 74 dB (A)

<b>Other</b>	
Approval Symbols	
Options	Dual Input Hopper, 2nd Output Hopper, High-Speed Stacker Arm, Straight Through Paper Path Elevation, digitally mixed color filter incl. filter generation tool colerase®
Accessories	Foot switch adapter. 2 Foot switch, white balance paper, wear part kit, professional vacuum cleaner, IT8 reference card

## 10.2. Scan Speeds 801 / 811 / 821 - A4/Letter

Scanning Performance - SCAMAX® 801 at	200 / 300 dpi	400 / 600 dpi
Format A4 portrait, simplex, sheets per minute		
Format A4 portrait, duplex, pages per minute		
Format A4 landscape, simplex, sheets per minute	160	
Format A4 landscape, duplex, pages per minute	320	
Format letter portrait, simplex, sheets per minute		
Format letter portrait, duplex, pages per minute		
Format letter landscape, simplex, sheets per minute		
Format letter landscape, duplex, pages per minute		

Scanning Performance - SCAMAX® 811 at	200 / 300 dpi	400 / 600 dpi
Format A4 portrait, simplex, sheets per minute		
Format A4 portrait, duplex, pages per minute		
Format A4 landscape, simplex, sheets per minute	220	
Format A4 landscape, duplex, pages per minute	440	
Format letter portrait, simplex, sheets per minute		
Format letter portrait, duplex, pages per minute		
Format letter landscape, simplex, sheets per minute		
Format letter landscape, duplex, pages per minute		

Scanning Performance - SCAMAX® 821 at	200 / 300 dpi	400 / 600 dpi
Format A4 portrait, simplex, sheets per minute		
Format A4 portrait, duplex, pages per minute		
Format A4 landscape, simplex, sheets per minute	300	
Format A4 landscape, duplex, pages per minute	600	
Format letter portrait, simplex, sheets per minute		
Format letter portrait, duplex, pages per minute		
Format letter landscape, simplex, sheets per minute		
Format letter landscape, duplex, pages per minute		

## 10.3. Contact Information

For questions regarding the document scanners from InoTec company, in principle, the local partners or traders should be the first point of contact. Should this not be available, also one of the following contact options can be used depending on the type of question.

for questions regarding technical issues:

✉ [hardware-support@inotec.eu](mailto:hardware-support@inotec.eu)

☎ +49 (0) 6036 9708 16

for questions regarding drivers and software:

✉ [driver-support@inotec.eu](mailto:driver-support@inotec.eu)

☎ +49 (0) 6036 9708 58