Configuration Manual
for the following products

<table>
<thead>
<tr>
<th>Family</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>SQUIX</td>
<td>SQUIX 2</td>
</tr>
<tr>
<td></td>
<td>SQUIX 4</td>
</tr>
<tr>
<td></td>
<td>SQUIX 6.3</td>
</tr>
<tr>
<td>MACH</td>
<td>MACH 4S</td>
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<tr>
<td>EOS</td>
<td>EOS2</td>
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<td></td>
<td>EOS5</td>
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# Introduction

Important information and instructions in this documentation are designated as follows:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>⚡️ 🟢</td>
<td>Danger! Draws attention to an exceptionally great, imminent danger to your health or life due to hazardous voltages.</td>
</tr>
<tr>
<td>⚡️</td>
<td>Danger! Draws attention to a danger with high risk which, if not avoided, may result in death or serious injury.</td>
</tr>
<tr>
<td>⚠️</td>
<td>Warning! Draws attention to a danger with medium risk which, if not avoided, may result in death or serious injury.</td>
</tr>
<tr>
<td>⚠️</td>
<td>Caution! Draws attention to a danger with low risk which, if not avoided, may result in minor or moderate injury.</td>
</tr>
<tr>
<td>🚧</td>
<td>Attention! Draws attention to potential risks of property damage or loss of quality.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🚧</td>
<td>Note! Advises to make work routine easier or on important steps to be carried out.</td>
</tr>
<tr>
<td>🌿</td>
<td>Environment! Gives you tips on protecting the environment.</td>
</tr>
<tr>
<td>▲</td>
<td>Handling instruction</td>
</tr>
<tr>
<td>▶️</td>
<td>Reference to section, position, illustration number or document.</td>
</tr>
<tr>
<td>✴️</td>
<td>Option (accessories, peripheral equipment, special fittings).</td>
</tr>
<tr>
<td>Time</td>
<td>Information in the display.</td>
</tr>
</tbody>
</table>
Connecting Label Printer to Computer

Choose from the following options for connecting a computer to the label printer:

• Direct connection to the Ethernet interface (6) \( \Rightarrow \) "2.3" on page 7.
• Connection via a computer network to the Ethernet interface (6) \( \Rightarrow \) "2.3" on page 7.
• Wi-Fi connection via WiFi adapter connected to an USB master interface \( \Rightarrow \) "2.4" on page 8.
• Connection to the full-speed USB slave interface (5) \( \Rightarrow \) "2.5" on page 10.
• Connection to the RS-232 interface \( \Rightarrow \) "2.6" on page 10.
• Connection via optional Bluetooth adapter connected to an USB master interface (4/9) \( \Rightarrow \) "2.7" on page 10.

\*Figure 1 Connections\*
2 Connecting Label Printer to Computer

2.1 Print Services Raw-IP and LPR/LPD in MS Windows

- Install a standard TCP/IP port as additional port for printing.
- During installation of the new port choose between "Raw" and "LPR"
- Raw-IP: Enter the same port address in the printer which you have selected during installation.

Notice!
In the delivery status the print services RawIP (Port 9100) and LPD are activated on the printer ▶ page 24.

2.2 Adjusting Windows Printer Setting

When the printer driver valid for your Windows version is installed on your computer, Windows standard applications can be used to edit the label contents and to start the print jobs. To use the Raw-IP or LPR/LPD print services, the Windows printer settings must be adjusted:
1. Open the folder containing the printers via Start > Settings > Printers.
2. Right-click the icon of the label printer.
   A pop-up menu appears.
3. Select “Properties” in the pop-up menu.
4. Open the “Details” or “Connections” tab.
   This tab contains, among other things, the connections which were also set up when the print services were installed. The names of these connections depend on the installation tool used.
5. Select the Raw-IP or LPR connection.
6. Click OK.

2.3 Connecting Label Printer via Ethernet Interface

To connect the label printer to a network jack, a patch cable with an RJ45 plug for 10 Base T or 100 Base T is required.

Attention!
- Use a shielded cable to connect the printer to the network.
- Connect computer and label printer with a suitable cable.
- Make the settings for operation of the Ethernet interface ▶ 6.1.8 on page 22.
- Set up print service if necessary ▶ 2.1 on page 7.
- Adjust Windows printer setting ▶ 2.2 on page 7.

Attention!
- Do not change the settings of the "IP" and "Gateway" on the printer web interface, as otherwise the connection to the printer may be lost.
2.4 Setting Up a Wi-Fi Connection

2.4.1 Connecting Printer to Network

* Access only with service Wi-Fi stick installed.

**Note!**
That mode allows to use an existing wireless network for controlling and configuring the printer and for sending print jobs to the printer.

- Start menu.
- Select Setup > Interfaces > Wi-Fi.
- Activate Wi-Fi ▶ page 22.
- Select Operation mode > Connect to network.
- Select Access-Point.
  - The search for access-points will be started.
  - The display shows the available access-points including the hidden access-points.
- Select an access point and confirm with ⬤.
- For hidden access-points enter the SSID.
- Setup DHCP or IP and Mask and if necessary Gateway.
- If the network is protected a prompt to enter the passkey appears in the printer display. Enter the passkey and select ✔.
- Set up print service if necessary ▶ 2.1 on page 7.
- Adjust Windows printer setting ▶ 2.2 on page 7.

**Attention!**
- Do not change the settings of the “IP” and “Gateway” on the printer web interface, as otherwise the connection to the printer may be lost.
2 Connecting Label Printer to Computer

2.4.2 Installing a Hotspot

* Access only with service Wi-Fi stick installed.

Note!
In that mode the Wi-Fi stick will be configured as a hotspot. That way a printer-own wireless network will be installed and the printer can be controlled and configured by a mobile device.

- Start menu.
- Select Setup > Interfaces > Wi-Fi.
- Activate Wi-Fi page 22.
- Select Operation mode > Hotspot.
  The new network gets a SSID generated of the OEM name and the last six digits of the MAC address and the password hotspot! Both parameters can be changed if necessary.
- Select Hotspot Info.
  The display shows the IP address of the printer, the SSID and the password of the network and a QR code which can be scanned by a mobile device.

Figure 2 Hotspot info

- Scan the QR code.
  The mobile device will be connected with the printer hotspot.
  Alternatively the connection can be established using the Settings of the mobile device.
  Following the network services can be used depending on the settings of both devices.
2.5 Connecting Label Printer via USB Interface

The full-speed USB interface allows the label printer to be operated via a USB interface of a computer running one of the 32bit or 64bit operating systems:

- Windows Vista
- Windows 8.1
- Windows 7
- Windows 10
- Windows Server 2008
- Windows Server 2008 R2
- Windows Server 2012
- Windows Server 2012 R2.
- Windows 8
- Windows 10
- Windows Server 2008 R2
- Windows Server 2016

A printer driver must be installed if a USB interface will be used for connection. The printer driver for your unit is found on the "Installer DVD" which is included in the scope of delivery or on the internet.

1. Switch label printer off.
2. Connect computer and label printer with an A-B cable.
3. Switch computer on.
4. Place the "Installer DVD" in the DVD drive.
5. Exit all programs currently running.
6. Switch printer on.

The Windows Installation Wizard is started automatically.

7. Follow the on-screen instructions. After successful installation, an icon for the label printer appears in the Windows "Printer" system folder.
8. Click icon in "Printer" system folder and make printer settings if necessary.

2.6 Connecting Label Printer via RS-232 interface

<table>
<thead>
<tr>
<th>Pin</th>
<th>Designation</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CD</td>
<td>Carrier Detect</td>
</tr>
<tr>
<td>2</td>
<td>TxD</td>
<td>Transmit Data</td>
</tr>
<tr>
<td>3</td>
<td>RxD</td>
<td>Receive Data</td>
</tr>
<tr>
<td>4</td>
<td>DTR</td>
<td>Data Terminal Ready (not used)</td>
</tr>
<tr>
<td>5</td>
<td>GND</td>
<td>Ground</td>
</tr>
<tr>
<td>6</td>
<td>DSR</td>
<td>Data Set Ready (not used)</td>
</tr>
<tr>
<td>7</td>
<td>RTS</td>
<td>Request to Send</td>
</tr>
<tr>
<td>8</td>
<td>CTS</td>
<td>Clear to Send</td>
</tr>
<tr>
<td>9</td>
<td>RI</td>
<td>Ring Indication (not used)</td>
</tr>
</tbody>
</table>

Table 1 Pin assignment of the RS-232 interface

- Connect the 9-pin socket to the matching port of the computer.
- For the most computers a 9pin serial SUB-D cable with 1:1 wiring can be used.
- Install the Windows Printer Driver from the DVD included in the delivery contents of the printer.
- Configure the interface parameters of the interface matching to the settings of the computer. ➤ page 24.

2.7 Setting Up a Bluetooth Connection

To set up a Bluetooth connection a Bluetooth USB Adapter (Part No. 5977732) is required.

Notice!
A Bluetooth software is delivered with the Bluetooth USB Adapter.

1. Connect the Bluetooth USB adapter an to an USB master interface.
2. Switch on the printer.
3. Install the Bluetooth software on the computer.
4. Start the Bluetooth software.
5. Start "Search devices". The printer will be shown in a list of Bluetooth devices.
6. Optional : For an well-defined connection of the devices select the printer and click "Connect Devices". Either a passkey will be shown or a window will be opened where a passkey can be set. ➤ Set a passkey if necessary . The display of the printer shows a prompt to enter the passkey too. ➤ Enter the passkey.
7. Select in the software "Connecting" via "Serial Bluetooth Interface". The new interface, e.g COM5, will be shown
8. Install the current printer with connection via the new COM interface in the label software or in Windows.
## 3 Menu

### 3.1 Structure of the Menu

The menu contains setting options on several levels for configuring the label printer. In addition, the menu features test and diagnostic functions for supporting the configuration or checking the function of the label printer.

<table>
<thead>
<tr>
<th>1st Selection Level</th>
<th>2nd Selection Level</th>
<th>3rd Selection Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Info</td>
<td>Storage</td>
<td></td>
</tr>
<tr>
<td>Setup</td>
<td>Printing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Labels</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ribbon</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yearing-off</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cutting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Peeling-off</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Labelling</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Interfaces</td>
<td>Ethernet</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wi-Fi</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Network services</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RS-232</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I/O</td>
</tr>
<tr>
<td></td>
<td>Errors</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Region</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Time</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Display</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Interpreter</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ZPL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Test</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Security</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diagnostics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Extras</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Help</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Service</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 Structure of the menu
3.2 Navigating in the Menu

The orientation of the display contents is adapted to the orientation of the display in the typical operation position of the printer.

<table>
<thead>
<tr>
<th>Portrait</th>
<th>Landscape</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Portrait Display" /></td>
<td><img src="image2.png" alt="Landscape Display" /></td>
</tr>
</tbody>
</table>

Figure 3  Orientation of the display contents

Note!
At printers with divers possible operation positions the orientation of the display contents can be turned in steps of 90 degrees. 

Note!
In that manual all following screen shots are shown in the portrait orientation.

<table>
<thead>
<tr>
<th>Start level</th>
<th>Selection level</th>
<th>Parameter/function level</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3.png" alt="Start Screen" /></td>
<td><img src="image4.png" alt="Selection Screen" /></td>
<td><img src="image5.png" alt="Parameter Screen" /></td>
</tr>
</tbody>
</table>

Figure 4  Menu levels

▶ To open the menu select on the start screen.

▶ Select a theme in the selection level.
Several themes have substructures again with selection levels.
To return from the current level to the upper one select . To leave the menu select .

▶ Continue the selection until the parameter/function level is reached.
Start a function. The printer will carry out the function possibly after a preparing dialogue.
- or -
Select a parameter to set. The setup possibilities are depending from the parameter type.

![Logical parameters](image1)
![Selection parameters](image2)
![Numerical parameters](image3)
![Date/time](image4)

Figure 5  Samples for parameter setting

<table>
<thead>
<tr>
<th><img src="image5" alt="Scroll bar" /></th>
<th>Scroll bar for rough value setting</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image6" alt="Decrease" /></td>
<td>Decreasing the value step-by-step</td>
</tr>
<tr>
<td><img src="image7" alt="Increase" /></td>
<td>Increasing the value step-by-step</td>
</tr>
<tr>
<td><img src="image8" alt="Return without saving" /></td>
<td>Return without saving the setting</td>
</tr>
<tr>
<td><img src="image9" alt="Return with saving" /></td>
<td>Return with saving the setting</td>
</tr>
<tr>
<td><img src="image10" alt="Disabled" /></td>
<td>Parameter is disabled, touching enables the parameter</td>
</tr>
<tr>
<td><img src="image11" alt="Enabled" /></td>
<td>Parameter is enabled, touching disables the parameter</td>
</tr>
</tbody>
</table>

Figure 6  Buttons for parameter setting
### 3.3 Service Key

A service key is required for accessing special service functions not accessible to the operator. This key switches the printer to service mode and enables:

- Access to additional configuration parameters
- Resetting of the service counter
- Additional information in the status print and in the device list
- Changing of the device name
- Access to PIN-protected configuration parameters and functions without entering the PIN
- Access to configuration parameters for optional assemblies, even if they are not currently installed

![Service key](image)

**Figure 7** Service key

---

**Attention!**

Incorrect settings and data loss via unauthorized access.

Access protection is deactivated when the service key is inserted. Operation of the printer by unauthorized persons can lead to incorrect settings and data loss in this case.

- Provide the service key to authorized persons only.
- Remove service key after service work and store it in a secure location.

- Insert service key into a USB master interface of the printer.

The service key also can be inserted while the device is switched on.

---

**Notice!**

In this document, parameters and functions which are only accessible when the service key is inserted are indicated using the following note:

- Access only with service key inserted!
The *Info* function provides an overview of important status information on the display of the printer.

- Start menu.
- Select *Info*.
- Return with *Close*.

The following parameters are displayed:

<table>
<thead>
<tr>
<th>Line</th>
<th>Meaning</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Printer type</td>
<td><em>SQUIX 4/300</em></td>
</tr>
<tr>
<td></td>
<td>Version number and creation date of the firmware</td>
<td><em>Firmware V5.13</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Dec 18, 2017</em></td>
</tr>
<tr>
<td>2</td>
<td>IPv4 address of the printer when connected to a network via Ethernet</td>
<td><em>Ethernet</em></td>
</tr>
<tr>
<td></td>
<td>MAC address of the network adapter on the PCB CPU</td>
<td><em>IPv4 10.20.2.42</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>MAC 00:02:e7:05:cb:bf</em></td>
</tr>
<tr>
<td>3</td>
<td>IPv4 address of the printer when connected to a network via Wi-Fi</td>
<td><em>Wi-Fi</em></td>
</tr>
<tr>
<td></td>
<td>MAC address of the Wi-Fi adapter</td>
<td><em>IPv4 192.168.10.1</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>MAC e8:4e:06:3e:72:26</em></td>
</tr>
<tr>
<td>4</td>
<td>Zeroconf host name</td>
<td><em>mDNS</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>cab-05cbbf.local</em></td>
</tr>
<tr>
<td>5</td>
<td>Operative time and number of printed labels</td>
<td><em>Hours/No. of labels</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>150h/1208</em></td>
</tr>
<tr>
<td>6</td>
<td>Previously printed paper lengths with thermal direct printing / thermal</td>
<td><em>Thermal/Transfer</em></td>
</tr>
<tr>
<td></td>
<td>transfer printing</td>
<td><em>29.04m/32.52m</em></td>
</tr>
<tr>
<td>7</td>
<td>Resolution, number of dots and revision of the printhead</td>
<td><em>Printhead</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>300dpi, 1248dots</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Rev. 2.1.0</em></td>
</tr>
<tr>
<td>8</td>
<td>Results of the label sensor calibration</td>
<td><em>Label sensor</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Brightness 13-38</em></td>
</tr>
<tr>
<td>9</td>
<td>Serial number of the PCB CPU, Revision of PCB CPU and the FPGA</td>
<td><em>PCB</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>S/N 164162036456</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>PCB Rev. 0</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>FPGA Rev. 13</em></td>
</tr>
</tbody>
</table>

Table 3 *Info* display
In the **Security** menu the access rights for several printer functions can be set.

- Start menu.
- Select Security.

### Table 4  Parameters of the Security menu

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Meaning</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIN protection</td>
<td>Activation of a four-digit PIN to protect certain parameters and functions accessible by the control panel. Setup: Protection of the submenu Setup Menu: Protection of the whole menu</td>
<td>Off</td>
</tr>
</tbody>
</table>
| Password ftpprint  | Password for FTP printing  
  ▶ Login as ftpprint  
  ✶ Access only when Interfaces > Network services > FTP = "On" | print   |
| Password ftpcard    | Password for FTP access to storage devices (USB stick, SD card, IFFS)  
  ▶ Login as ftpcard  
  ✶ Access only when Interfaces > Network services > FTP = "On" | card    |
| Password ftpadmin   | Password for FTP firmware update  
  ▶ Login as ftpadmin  
  ✶ Access only when Interfaces > Network services > FTP = "On" | admin   |
| Password website    | Password for Parameter setting via web interface  
  ▶ Login as admin  
  ✶ Access only when Interfaces > Network services > Website = "On" | admin   |
| Security web service| Authentication type for the SOAP protocol  
  ✶ Access only when Interfaces > Network services > Web service = "On" | Digest  |
| Password web service| Password for the SOAP protocol  
  ✶ Access only when Interfaces > Network services > Web service = "On" | soap    |
| Password VNC        | Password for the VNC server  
  ✶ Access only when Interfaces > Network services > VNC server = "On" | vnc     |
| TLS/SSL             | Provides communications security to access the printer via https or ftps. The printer automatically generates a certificate, which is not signed by a third-party certificate authority. When accessing the printer a security message may appear. | Off     |
| TLS certificate     | Allows to load a certificate in PEM format signed by a third-party certificate authority to provide communications security. | Serial no. of the certificate |
| Block ext. storage  | Blocks the access to installed SD cards and USB memories | Off     |
| Block USB ports     | Blocks the access to USB master ports | Off     |
6 Configuration

6.1 Configuration via Control Panel

A host of parameters for configuring the printer are found in the Setup menu.

- Configure the printer via the control panel during initial commissioning and when making major changes to the operational conditions.
- For changes required for processing different print jobs use software settings.

Notice!
The Setup menu can be protected from unauthorized access via a code number (PIN).

6.1.1 Printing

- Start menu.
- Select Setup > Printing.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Meaning</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat level</td>
<td>Heating value for compensating for the differing thermal behavior of printheads. Changing this value is then especially necessary if the printing intensity has changed after replacing the printhead. To adapt the printing intensity when using different media, print speeds or printing contents, you should change the heat level in the software. The settings of configuration and software are added together. The Heat level setting also affects the test printouts.</td>
<td>0</td>
</tr>
<tr>
<td>Print speed</td>
<td>Basic print speed setting. The print speed can be re-specified for each print job via software. The basic setting is not changed by this. The print speed setting also affects the test printouts.</td>
<td>50 mm/s</td>
</tr>
<tr>
<td>Print position X</td>
<td>Shifting of the entire print image perpendicular to the direction of paper flow. The absolute shifting is limited by the margins of the print zone. Those are determined by the width of the printing line on the printhead. The setting can also be adjusted by the software. The settings of configuration and software are added together.</td>
<td>0.0 mm</td>
</tr>
<tr>
<td>Print position Y</td>
<td>Shifting of the entire print image in the direction of paper flow. With positive values, printing begins later in the direction of paper flow. Shifting of the print image in the direction of paper flow also influences the peel and cut positions. Correct the Peel position and Cut position parameters by the same value in the opposite direction. The setting can also be adjusted by the software. The settings of configuration and software are added together.</td>
<td>0.0 mm</td>
</tr>
</tbody>
</table>
| Backfeed        | Method for backfeeding the label medium. Backfeeding is necessary in the cutting and peel-off modes since a label is pushed out passed the front edge of the next label above the print line when peeling off/cutting. 

always: Backfeeding occurs independently of label contents.

smart: Backfeeding only occurs when the next label is not yet completely prepared when peeling off/cutting the current label. Otherwise, the second label is pushed on and completed after removal of the first label without backfeeding. | smart |
| Backfeed position| Offset of the backfeed movement | 1.0 mm  |
### Configuration

#### Table 5  Parameters of the Setup > Printing menu

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Meaning</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Print on demand</strong></td>
<td>Peel-off mode: Behavior after removing a label from the peel position</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>On</em>: The next label will be printed and peeled-off after touching</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Off</em>: The next label will be printed and peeled-off immediately</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cut mode: Behavior between the cuts</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>On</em>: After cutting the next label will be printed and cut after touching</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Off</em>: All labels will be printed and cut nonstop</td>
<td></td>
</tr>
<tr>
<td><strong>Reprint</strong></td>
<td>Printing of another label with the information of the previous print job by touching</td>
<td></td>
</tr>
<tr>
<td></td>
<td>This function can be executed until the print buffer is cleared with</td>
<td>Re-render</td>
</tr>
<tr>
<td></td>
<td><em>Re-render</em>: Adition of counter values, variable data can be newly put in.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Duplicate</em>: New label is identical with the last label of the print job.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Off</em>: No reprint</td>
<td></td>
</tr>
<tr>
<td><strong>Single label buffer</strong></td>
<td>The next label will be processed only when the current one has finished printing.</td>
<td>Off</td>
</tr>
<tr>
<td><strong>Length scale</strong></td>
<td>Eliminate deviations of the print length from the length set in the programming</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Slippage correction</strong></td>
<td>To correct the slippage of the media transport the positioning of the print image will be re-adjusted to the position of the last detected label front edge considering the programmed label distance.</td>
<td>Off</td>
</tr>
</tbody>
</table>
6 Configuration

6.1.2 Labels

- Start menu.
- Select Setup > Labels.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Meaning</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Label sensor</td>
<td>Method for detecting the starting end of the label.</td>
<td>Gap sensor</td>
</tr>
<tr>
<td></td>
<td>Gap Sensor: Detection using changes in the transparency between the label and label gap.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bottom-Reflect: Detection using reflex marks on the bottom of the medium.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Continuous media: Checking the existence of media only.</td>
<td></td>
</tr>
<tr>
<td>Extrapolate labels</td>
<td>The positions of the labels which are between the label sensor and the printhead are calculated from the first label recognized by the sensor and the programmed label distance. That way those labels can be printed although the printhead previously was open.</td>
<td>Off</td>
</tr>
<tr>
<td>Ignore paper end</td>
<td>Suppression of wrong Out of paper error messages when using labels with transparent liner.</td>
<td>Off</td>
</tr>
</tbody>
</table>

Table 6 Parameters of the Setup > Labels menu

6.1.3 Ribbon

- Start menu.
- Select Setup > Ribbon.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Meaning</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer print</td>
<td>On: Sensor for monitoring the transfer ribbon is activated. Off: Sensor for monitoring the transfer ribbon is not activated. The setting can be overwritten for each print job via software. The basic setting is not changed by this.</td>
<td>On</td>
</tr>
<tr>
<td>Warn level ribbon</td>
<td>Threshold diameter (32–74 mm) of the ribbon supply roll, if the value is undershot the “ribbon low” message will be activated</td>
<td>Off</td>
</tr>
<tr>
<td>Pause on warning</td>
<td>The print job will be interrupted when the “ribbon low” message appears</td>
<td>Off</td>
</tr>
<tr>
<td>Monitor ink side</td>
<td>Setting of the ribbon unwinding direction The print job will be interrupted when the wrong ribbon winding direction has been detected. The error message “Ribbon ink side” appears.</td>
<td>Off</td>
</tr>
<tr>
<td>Ribbon tension</td>
<td>✴ Only at EOS! Adaptation of the winding torque at the ribbon rewinder to different ribbons.</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 7 Parameters of the Setup > Ribbon menu
### 6.1.4 Tearing-off

- Start menu.
- Select Setup > Tearing-off.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Meaning</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tear-off mode</td>
<td>Positioning the label medium for tearing off at the tear-off plate. On: Additional advancement of the label medium which positions the label gap after the last printed label at the dispense plate. Off: Label advance stops once the last label has fully passed the print line.</td>
<td>Ein</td>
</tr>
<tr>
<td>Tear-off position</td>
<td>Shifting of the tear-off position in the direction of paper flow. With positive values, the label strip is transported farther out of the printer.</td>
<td>0.0 mm</td>
</tr>
</tbody>
</table>

Table 8 Parameters of the Setup > Tearing-off menu

### 6.1.5 Cutting

* If cutter is not installed, access only with service key inserted.

- Start menu.
- Select Setup > Cutting.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Meaning</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cut position</td>
<td>Offset of the cut position relative to the rear label edge. The setting can also be adjusted by the software. The settings of configuration and software are added together.</td>
<td>0.0 mm</td>
</tr>
</tbody>
</table>
| Perforation level | With perforation cutter only  
* Not at MACH 4S  
Setting of the perforation depth. The setting can also be adjusted by the software. The settings of configuration and software are added together. | 0       |

Table 9 Parameters of the Setup > Cutting menu

### 6.1.6 Peeling-off

* Not at EOS!

* If peel-off module is not installed, access only with service key inserted.

- Start menu.
- Select Setup > Peeling-off.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Meaning</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peel-off position</td>
<td>Shift the position of the dispensed label relative to the dispensing edge. The setting can also be adjusted by the software. The settings of configuration and software are added together.</td>
<td>0.0 mm</td>
</tr>
<tr>
<td>Backfeed delay</td>
<td>Delay time between removing the label from the peel position and the backfeed of the label.</td>
<td>250 ms</td>
</tr>
</tbody>
</table>

Table 10 Parameters of the Setup > Peeling-off menu
6.1.7 Labelling

* Not at MACH 4S and EOS!
* If applicator is not installed, access only with service key inserted.

- Start menu.
- Select Setup > Labelling.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Meaning</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer mode</td>
<td>Setting the operation mode Stamp on, Roll on, Blow on</td>
<td>Stamp on</td>
</tr>
<tr>
<td>Cycle sequence</td>
<td>Setting the application mode Print-Apply / Apply-Print</td>
<td>Print-Apply</td>
</tr>
</tbody>
</table>
|                    | **Print-Apply:** An external start signal releases the print of a label and following the application of the label. After a cycle is complete, the pad without label waits in the start position.  
|                    | **Apply-Print:** An extra signal starts the print of the first label and the transfer of the label to the pad. The external start signal releases the application of the label and following the print and transfer of the next label. After a cycle is complete, the pad with a label is in the waiting position. |               |
| Waiting position   | up: Pad waits in the start position for the start signal  
|                    | down: Pad waits in the labelling position for the start signal  
|                    | Only at Transfer mode = Blow on and Cycle sequence = Apply-Print       | up            |
| Blow time          | Switch-on time (max. 2.5 s) of the blowing air for the label transfer  
|                    | Only at Transfer mode = Blow on                                         | 1000 ms       |
| Roll-on time       | Dwell time (max. 5 s) of the pad in the labelling position  
|                    | Only at Transfer mode = Roll on                                          | 1000 ms       |
| Support delay on   | Setting the switch-on delay (max. 2.5 s) for the supporting air between print start and switching on the supporting air. The delay prevents swirling at the front of the label and, consequently, avoids faults when the label is being picked up from the printer. | 0 ms          |
| Support delay off  | Setting the switch-off delay (max. 2.5 s) for the supporting air between the end of label forwarding and switching on the supporting air. The delay can be useful to separate the rear edge of the label from the carrier to avoid errors and to improve the accuracy of label positioning | 0 ms          |
| Start delay        | Delay (max. 2.5 s) between start signal and the start of an labelling cycle.  
|                    | Allows e.g. the use of product sensors at conveyors.                    | 0 ms          |
| Lock time          | All start signals coming in following the first start signal are ignored when they arrive within the lock time (max. 2.5 s). | 0 ms          |
| Vacuum delay       | On - The vacuum will be switched on after the label feed is completed.  
|                    | Off - The vacuum will be switched on when the label feed starts.         | Off           |
| Vacuum control     | Setting the label transfer check from printer to pad and from pad to product by the vacuum sensor | On            |
| Peel-off position  | Shift the position of the dispensed label relative to the dispensing edge. The setting can also be adjusted by the software. The settings of configuration and software are added together. | 0.0 mm        |

Table 11 Parameters of the Setup > Labelling menu
6.1.8 Interfaces

- Start menu.
- Select Setup > Interfaces.

**Ethernet**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Meaning</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hostname</td>
<td>Unique identification of the printer in a network in a human readable format</td>
<td>generated of OEM name and the last six digits of the MAC address</td>
</tr>
<tr>
<td>DHCP</td>
<td>Method of issuing IP address</td>
<td>On: Dynamic issuing of IP address by the DHCP server&lt;br&gt;Off: Direct issuing of the IP address by the operator</td>
</tr>
<tr>
<td>&gt; IP address</td>
<td>IP address of the label printer. Only valid with DHCP = Off.</td>
<td>-</td>
</tr>
<tr>
<td>&gt; Netmask</td>
<td>Subnet mask (classification and address range) of the local network. Only valid with DHCP = Off.</td>
<td>-</td>
</tr>
<tr>
<td>&gt; Gateway</td>
<td>Connection address between the local network and other networks.</td>
<td>Off</td>
</tr>
<tr>
<td>&gt;&gt; Gateway address</td>
<td>The IP address of the computer (router) on the network through which the connection can be established is used for this. The address of the router can also be issued via DHCP.</td>
<td>-</td>
</tr>
<tr>
<td>&gt; DNS-Server</td>
<td>Setting the IP address of a DNS server manually&lt;br&gt;The DNS server resolves the internet addresses to IP addresses e.g. to select network services such as NTP per domain name.</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 12 Parameters of the Setup > Interfaces > Ethernet menu
## Configuration

### Wi-Fi

* Access only with Wi-Fi stick installed.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Meaning</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wi-Fi</td>
<td>Activation of the Wi-Fi interface</td>
<td>Off</td>
</tr>
<tr>
<td>&gt; Operation mode</td>
<td>Selection of the operation mode</td>
<td>Connect to network</td>
</tr>
<tr>
<td>Connect to network</td>
<td>Connection of the printing to an existing wireless network</td>
<td></td>
</tr>
<tr>
<td>Hotspot</td>
<td>Installation of a printer-own wireless network to connect mobile devices to the printer</td>
<td></td>
</tr>
<tr>
<td>Operation mode</td>
<td><strong>Connect to network</strong></td>
<td></td>
</tr>
<tr>
<td>&gt;&gt; Access-Point</td>
<td>Selection of the Access Point to setting up the Wi-Fi connection.</td>
<td>-</td>
</tr>
<tr>
<td>&gt;&gt; DHCP</td>
<td>&gt; Ethernet &gt; DHCP</td>
<td>On</td>
</tr>
<tr>
<td>&gt;&gt;&gt; IP adress</td>
<td>&gt; Ethernet &gt; IP adress</td>
<td>-</td>
</tr>
<tr>
<td>&gt;&gt;&gt; Netmask</td>
<td>&gt; Ethernet &gt; Netmask</td>
<td>-</td>
</tr>
<tr>
<td>&gt;&gt;&gt; Gateway</td>
<td>&gt; Ethernet &gt; Gateway</td>
<td>Off</td>
</tr>
<tr>
<td>&gt;&gt;&gt;&gt;&gt; Gateway address</td>
<td>&gt; Ethernet &gt; Gateway address</td>
<td>-</td>
</tr>
<tr>
<td>&gt;&gt;&gt; DNS-Server</td>
<td>&gt; Ethernet &gt; DNS-Server</td>
<td>-</td>
</tr>
</tbody>
</table>

### Operation mode **Hotspot**

| >> Hotspot SSID  | Name of the printer-own wireless network                               | generated of the OEM name and the last six digits of the MAC address |
| >> Hotspot password | Password of the printer-own wireless network                            | hotspot!                |
| >> Hotspot info   | Display of the IP address of the hotspot, the SSID and the password to connect the device to the printer-own wireless network | -                       |

Table 13 Parameters of the Set up > Interfaces > Wi-Fi menu
### Network Services

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Meaning</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTP</td>
<td>Activation of the File Transfer Protocol</td>
<td>On</td>
</tr>
<tr>
<td>LPD</td>
<td>Activation of the network printing service LPD</td>
<td>On</td>
</tr>
<tr>
<td>RawIP</td>
<td>Activation of the network printing service RawIP and selection of the port address</td>
<td>On</td>
</tr>
<tr>
<td>&gt; RawIP Port</td>
<td>Selection of the port address for RawIP</td>
<td>9100</td>
</tr>
<tr>
<td>&gt; RawIP Timeout</td>
<td>Setting the timeout for the interruption of unused connections</td>
<td>Default</td>
</tr>
<tr>
<td>Website</td>
<td>Activation of the Hypertext Transfer Protocol for the access to the internal printer website</td>
<td>On</td>
</tr>
<tr>
<td>Web service</td>
<td>Activation of the Simple Object Access Protocol</td>
<td>Off</td>
</tr>
<tr>
<td>SNMP</td>
<td>Data exchange between printer and management station via Simple Network Management Protocol</td>
<td>Off</td>
</tr>
<tr>
<td>&gt; SNMP community</td>
<td>Keyword to assign the SNMP rights</td>
<td>public</td>
</tr>
<tr>
<td>VNC server</td>
<td>Activation of the VNC server for remote access to the control panel</td>
<td>Off</td>
</tr>
<tr>
<td>Zeroconf</td>
<td>Activation of the auto-configuring Zeroconf method for adhoc networks</td>
<td>On</td>
</tr>
<tr>
<td>OPC UA</td>
<td>Activation of the protocol OPC UA for multi-vendor machine to machine communication</td>
<td>Off</td>
</tr>
</tbody>
</table>

Table 14  Parameters of the **Setup > Interfaces > Network services** menu

### RS-232

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Meaning</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baud rate</td>
<td>Speed (in Baud) of data transfer</td>
<td>115.200</td>
</tr>
<tr>
<td>Handshake</td>
<td>Data transfer protocol</td>
<td>RTS/CTS</td>
</tr>
</tbody>
</table>

Table 15  Parameters of the **Setup > Interfaces > RS-232** menu

**Note!**
The following parameters cannot be changed: Data bits: 8, Stop bits: 1, Parity: None
## I/O

*Access only with I/O interface installed!
Not at MACH 4S and EOS!

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Meaning</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>START mode</strong></td>
<td>Configuration of the I/O signal START&lt;br&gt;<strong>Edge:</strong> A label will be printed by switching on 24V between START and GND_EXT.&lt;br&gt;<strong>Level:</strong> In <strong>Rewind mode</strong> labels are printed as long as 24V are switched on between START and GND_EXT.&lt;br&gt;In <strong>Peel-off mode</strong> a label will be printed after receiving the signal LBLREM as long as 24V are switched on between START and GND_EXT.</td>
<td>Edge</td>
</tr>
<tr>
<td><strong>REPRINT mode</strong></td>
<td>Configuration of the I/O signal REPRINT&lt;br&gt;<strong>Edge:</strong> A label will be repeated by switching on 24V between REPRINT and GND_EXT.&lt;br&gt;<strong>Level:</strong> A label will be repeated as long as 24V are switched on between REPRINT and GND_EXT.&lt;br&gt;<strong>START/REPRINT select:</strong> A label will be repeated when 24V are switched on between REPEAT and GND_EXT and the START signal will be activated additionally.</td>
<td>Edge</td>
</tr>
<tr>
<td><strong>Start delay</strong></td>
<td>Delay (max. 2.5 s) between start signal and the start of an labelling cycle.</td>
<td>0 ms</td>
</tr>
<tr>
<td><strong>Lock time</strong></td>
<td>All start signals coming in following the first start signal are ignored when they arrive within the lock time (max. 2.5 s).</td>
<td>0 ms</td>
</tr>
<tr>
<td><strong>Automatic LBLREM</strong></td>
<td>Simulation of the I/O signal LBLREM&lt;br&gt;For peel-off mode without present sensor&lt;br&gt;<strong>On:</strong> With the signal START the removing of the previous label also will be confirmed.&lt;br&gt;<strong>Off:</strong> To confirm the label removing the signal LBLREM must be activated.</td>
<td>Off</td>
</tr>
<tr>
<td><strong>Legacy I/O</strong></td>
<td>Inversion of the positions signals HOMEPOS (old: XSOE) and ENDPOS (old: XSUE) for using the applicator S1000 in systems, which were previously operated with an applicator A1000.</td>
<td>Off</td>
</tr>
<tr>
<td><strong>JOBDEL mode</strong></td>
<td>Configuration of the I/O signal JOBDEL&lt;br&gt;<strong>Cancel print job:</strong> The current print job is canceled and deleted from the print buffer.&lt;br&gt;<strong>Cancel all:</strong> All jobs in buffer are canceled.</td>
<td>Cancel print job</td>
</tr>
</tbody>
</table>

Table 16   Parameters of the Setup > Interfaces > I/O menu
6.1.9 Errors

- Start menu.
- Select Setup > Errors.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Meaning</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Error-Reprint</td>
<td>On: With a correctable error and corresponding troubleshooting, the label being printed when the error occurs is repeated. Off: Print job is continued with the next label.</td>
<td>On</td>
</tr>
<tr>
<td>Syntax error</td>
<td>Printer switches to error mode after receipt of an incorrect command.</td>
<td>On</td>
</tr>
<tr>
<td>Barcode error</td>
<td>On: With faulty barcode contents or size specifications, printing is interrupted. Off: Printing is not interrupted if an error occurs. If barcode contents are faulty, the printer attempts to replace the incorrect data with valid characters (e.g. zeros). If barcode size specifications are faulty, a gray area is printed instead of the barcode.</td>
<td>On</td>
</tr>
<tr>
<td>Network error</td>
<td>Printer switches to error mode when problems with the network connection occur.</td>
<td>Off</td>
</tr>
</tbody>
</table>

Table 17 Parameters of the Setup > Errors menu

6.1.10 Region

- Start menu.
- Select Setup > Region.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Meaning</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language</td>
<td>Setting the display language</td>
<td>English</td>
</tr>
<tr>
<td>Country</td>
<td>Setting the country-specific date and time formats. The time formats can also be overwritten via software. The changes are not saved permanently, however.</td>
<td>Germany</td>
</tr>
<tr>
<td>Keyboard</td>
<td>Setting of the keyboard layout when using an external keyboard or the soft keyboard on the printer display.</td>
<td>Automatic (=Country)</td>
</tr>
</tbody>
</table>

Table 18 Parameters of the Setup > Region menu
6 Configuration

6.1.11 Time

► Start menu.
► Select Setup > Time.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Meaning</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>Setting of the system date in the format DD.MM.YYYY. The print output</td>
<td></td>
</tr>
<tr>
<td></td>
<td>of the date occurs in the format set via the Country parameter.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The date can also be changed via software. The change is not saved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>permanently, however.</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>Setting the system time in the HH:MM:SS format. When changing the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>time, ensure that the Timezone, Daylight saving and Date parameters</td>
<td></td>
</tr>
<tr>
<td></td>
<td>are set correctly.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The time can also be synchronized automatically via the internet using</td>
<td></td>
</tr>
<tr>
<td></td>
<td>the Ethernet interface. The print output of the time occurs in the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>format set via the Country parameter.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The time can also be changed via software. The change is not saved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>permanently, however.</td>
<td></td>
</tr>
<tr>
<td>Time zone</td>
<td>Adaptation of the time display of the printer to the time zone in</td>
<td>UTC+1</td>
</tr>
<tr>
<td></td>
<td>relation to UTC (Universal Time Coordinated).</td>
<td></td>
</tr>
<tr>
<td>Daylight saving</td>
<td>Selection of the daylight saving regulation applicable for the region.</td>
<td>EU</td>
</tr>
<tr>
<td>Time</td>
<td>synchronisation</td>
<td>NTP</td>
</tr>
<tr>
<td>&gt; Time server</td>
<td>Address of the time server</td>
<td></td>
</tr>
</tbody>
</table>

Table 19 Parameters of the Setup > Time menu

6.1.12 Display

► Start menu.
► Select Setup > Display.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Meaning</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation</td>
<td>Adaptation of the display contents to the display orientation.</td>
<td>0°</td>
</tr>
<tr>
<td></td>
<td>♦ Not at MACH 4S</td>
<td></td>
</tr>
<tr>
<td>Brightness</td>
<td>Brightness of the LCD display.</td>
<td>8</td>
</tr>
<tr>
<td>Time powersave</td>
<td>Time between the last operation and activation of energy-saving mode.</td>
<td>5 min</td>
</tr>
</tbody>
</table>

Table 20 Parameters of the Setup > Display menu
6.1.13 Interpreter

- Start menu.
- Select Setup > Interpreter.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Meaning</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Character set</td>
<td>Selection of the character set table for adaptation to the computer system used. Switching the character set via software is not possible. Characters not available in the selected character set can be accessed using the Unicode table.</td>
<td>UTF-8</td>
</tr>
<tr>
<td>USB</td>
<td>Choosing between the programming languages JScript and ZPL for data transfer via USB interface</td>
<td>JScript</td>
</tr>
<tr>
<td>RS-232</td>
<td>Choosing between the programming languages JScript and ZPL for data transfer via RS-232 interface</td>
<td>JScript</td>
</tr>
<tr>
<td>FTP</td>
<td>Choosing between the programming languages JScript and ZPL for data transfer via FTP</td>
<td>JScript</td>
</tr>
<tr>
<td>LPD</td>
<td>Choosing between the programming languages JScript and ZPL for printing with LPD</td>
<td>JScript</td>
</tr>
<tr>
<td>RawIP</td>
<td>Choosing between the programming languages JScript and ZPL for printing with RawIP</td>
<td>JScript</td>
</tr>
<tr>
<td>Bluetooth</td>
<td>Choosing between the programming languages JScript and ZPL for data transfer via Bluetooth</td>
<td>JScript</td>
</tr>
</tbody>
</table>

Table 21 Parameters of the Setup > Interpreter menu

6.1.14 ZPL

- Start menu.
- Select Setup > ZPL.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Meaning</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; Printing width</td>
<td>Setting the print width for ZPL programming</td>
<td>maximum print width</td>
</tr>
<tr>
<td>&gt; Label length</td>
<td>Setting the label length for ZPL programming</td>
<td>150.0 mm</td>
</tr>
</tbody>
</table>

Table 22 Parameters of the Setup > ZPL menu
6.2 Configuration via the Web Interface

The parameters accessible via the control panel can also be set via the web interface contained in the firmware of the printer.

The printer web interface can be accessed with a browser (e.g. Microsoft Internet Explorer, Mozilla Firefox) with JavaScript activated via the Ethernet interface or the optional Wi-Fi interface.

Calling Up the Web Interface

⚠️ Attention!
Whenever settings are changed via the web interface you are requested to enter the user name "admin" and a password. The default value of the password is also "admin". The password can be changed via the web interface (▷ “Setup Tab” page 32).

➤ Start the browser.
➤ Call the web interface by entering the IP address via HTTP (e.g. http://192.168.100.208). The "Status" tab is open on the home screen.

The web interface contains the following tabs:
• Status: general status description ▷ page 30.
• Setup: configuration parameter settings ▷ page 31.
• Security: password settings ▷ page 32.
• Devices: list of the hardware and optional components ▷ page 34.
• Fonts: overview of the available fonts ▷ page 35.
6.2.1 Status Tab

The following information is contained in the left top section of the "Status" tab:

- Printer type
- Firmware version
- Serial number of the PCB CPU
- Operative time of the printer
- Number of labels printed since commissioning
- Previously printed paper length with thermal transfer printing
- Previously printed paper length with thermal direct printing

A list of the events which have occurred since the printer was switched on is to be found in the left bottom section of the tab.

The right section of the tab shows the current printer display information.

![Printer Administration](image)

Figure 8  "Status" tab on the printer web interface

Notice!

By clicking the buttons the printer can be operated in the same manner as by using the touchscreen on the device.

When the printer display is selected by mouse click, it is possible to use the computer keyboard in the same manner like an External Keyboard (▶ "16.3" on page 72) e.g. for entering variable input data.
6 Configuration

6.2.2 Setup Tab

On the "Setup" tab all the configuration parameters can be set which are also accessible via the control panel in the Setup menu.

![Setup Tab on the printer web interface](image)

Figure 9  "Setup" tab on the printer web interface

To change a parameter:
1. Locate parameter in the tree structure.
2. Set the value of the parameter at the right end of the concerning line. A prompt to enter user name and password appears page 16.
3. Enter user name and password and click OK.
6.2.3 Security Tab

On the "Security" tab the access rights for several printer function can be set. The tab contains the same parameters as the Security menu of the Setup \[\rightarrow\] page 16.

To change a parameter:
1. Locate parameter in the tree structure.
2. Set the value of the parameter at the right end of the concerning line. A prompt to enter user name and password appears \[\rightarrow\] page 16.
3. Enter user name and password and click OK.
6 Configuration

6.2.4 Notifications Tab

The "Notifications" tab allows to send status and error messages automatically to a SNMP manager or via e-mail to selected addresses via the Ethernet interface or WiFi.

To change settings:
1. If necessary expand the tree structure.
2. Locate and click the message in the tree structure.
3. Select management station or e-mail address.
4. If the selection at SNMP or e-mail is empty, click the button next to the concerning title and define the SNMP sinks or e-mail addresses.

Figure 11  "Notifications" tab on the printer web interface

Figure 12  Dialog boxes for SNMP and e-mail configuration
6.2.5 Devices Tab

The "Devices" tab provides an overview of the most important hardware components installed in the printer and the optional devices connected.

Figure 13  "Devices" tab on the printer web interface

The contents of the display correspond with those of the Device list "Table 24" on page 39.
6 Configuration

6.2.6 Fonts Tab

The most important parameters of the fonts available in the printer are listed on the "Fonts" tab. The table contains both the original fonts in the printer and other fonts loaded into the printer.

Figure 14  "Fonts" tab on the printer web interface

The parameters correspond to those in the Font list "Table 23" on page 38.
6.2.7 Help Menu

Independent from the chosen tab some help functions can be selected:

![Figure 15](image)

"Help" menu on the printer web interface

Check of the firmware version and offer for update.

Visit the cab-Website.

Information about the version and the latest alterations of the web interface.
7 Test Functions

7.1 Overview

The Test menu contains test functions providing information on:

- the most important configuration parameters
- the fonts available in the printer
- important hardware components and connected peripheral devices
- the print image quality and state of the thermal printhead
- available Wi-Fi networks.

7.2 Status Print

The Status print function prints a test image containing information on the configuration and status of the printer. The printout occurs using the heat level and print speed specified in the Setup > Printing menu.

Notice!
The printout occurs without taking the label gaps into consideration. This is why endless media are most suitable for this purpose.

- Insert printable medium (labels, endless paper) which extends across the entire printing width.
- If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.
- Start menu.
- Select Test > Status print.

The printout can be canceled with .

**Figure 16** Status print Parameters marked italic are only printed when the printer is equipped with the respective optional assembly or when the service key is inserted.

---

### Test Functions

#### Overview

- The most important configuration parameters
- Fonts available in the printer
- Important hardware components and connected peripheral devices
- Print image quality and state of the thermal printhead
- Available Wi-Fi networks

#### Status Print

The Status print function prints a test image containing information on the configuration and status of the printer. The printout occurs using the heat level and print speed specified in the Setup > Printing menu.

**Notice!**
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- Insert printable medium (labels, endless paper) which extends across the entire printing width.
- If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.
- Start menu.
- Select Test > Status print.

The printout can be canceled with .

---

### Status Print

<table>
<thead>
<tr>
<th>Printing</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat level</td>
<td>0</td>
</tr>
<tr>
<td>Print speed</td>
<td>75 mm/s</td>
</tr>
<tr>
<td>Print position X</td>
<td>0.0 mm</td>
</tr>
<tr>
<td>Print position Y</td>
<td>0.0 mm</td>
</tr>
<tr>
<td>Backfeed</td>
<td>Off</td>
</tr>
<tr>
<td>Print on demand</td>
<td>Off</td>
</tr>
<tr>
<td>Report</td>
<td>Off</td>
</tr>
<tr>
<td>Single label buffer</td>
<td>0 %</td>
</tr>
<tr>
<td>Double label buffer</td>
<td>0 %</td>
</tr>
</tbody>
</table>

### Labels

<table>
<thead>
<tr>
<th>Label sensor</th>
<th>Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duplex paper end</td>
<td>Off</td>
</tr>
</tbody>
</table>

### Ribbon

| Transfer print            | On    |
|                          |       |
| Transfer position label   | Off   |
| Please on warning         | Off   |
| Monitor one side          | Off   |

### Tearing-off

| Tear-off mode            | On    |
|                          |       |
| Tear-off position        | 0.0 mm |
| Perforation level        | 0     |

### Cutting

| Cut position              | 0.0 mm |
|                          |       |
| Perforation delay         | 250 mm |

### Peeling-off

| Peel-off position         | 0.0 mm |
|                         |       |
| Peel-off delay           | 250 mm |

### Interfaces

| Ethernet                  | cbl-981913 |
|                          |          |
| IP address                | 192.168.9.13 |
| Subnet mask               | 255.255.255.0 |
| Gateway                   | Off     |
| DNS server                | 0.0.0.0 |

---

### Figure 16 Status print

Parameters marked italic are only printed when the printer is equipped with the respective optional assembly or when the service key is inserted.
7.3 Font list

The **Font list** function prints the most important parameters of the fonts available in the printer in tabular form. The table contains both the original fonts in the printer and other fonts loaded into the printer. The printout occurs using the heat level and print speed specified in the **Setup > Printing** menu.

**Notice!**

The printout occurs without taking the label gaps into consideration. This is why endless media are most suitable for this purpose.

- Insert printable medium (labels, endless paper) which extends across the entire printing width.
- If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.
- Start menu.
- Select **Test > Font list**.

The printout can be canceled with 🗑️.

---

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-1</td>
<td>DEF1</td>
<td>Bitmap</td>
<td>Default Font 12x12 dots</td>
</tr>
<tr>
<td>-2</td>
<td>DEF2</td>
<td>Bitmap</td>
<td>Default Font 16x16 dots</td>
</tr>
<tr>
<td>-3</td>
<td>DEF3</td>
<td>Bitmap</td>
<td>Default Font 16x32 dots</td>
</tr>
<tr>
<td>-4</td>
<td>OCR_A_I</td>
<td>Bitmap</td>
<td>OCR-A Size I</td>
</tr>
<tr>
<td>-5</td>
<td>OCR_B</td>
<td>Bitmap</td>
<td>OCR-B</td>
</tr>
<tr>
<td>3</td>
<td>BX000003</td>
<td>TrueType</td>
<td>Swiss 721</td>
</tr>
<tr>
<td>5</td>
<td>BX000005</td>
<td>TrueType</td>
<td>Swiss 721 Bold</td>
</tr>
<tr>
<td>7</td>
<td>CTROM</td>
<td>TrueType</td>
<td>CG TimesRoma Condensed Bold</td>
</tr>
<tr>
<td>596</td>
<td>BX000006</td>
<td>TrueType</td>
<td>Monospace 821</td>
</tr>
<tr>
<td>1000</td>
<td>GH021M</td>
<td>TrueType</td>
<td>AR Heiti Medium GB-Mono</td>
</tr>
<tr>
<td>1010</td>
<td>HABIBIAG</td>
<td>TrueType</td>
<td>HabibigrokLight</td>
</tr>
<tr>
<td>1010</td>
<td>GARRUDA</td>
<td>TrueType</td>
<td>Garruda</td>
</tr>
</tbody>
</table>

**Figure 17** Font list

**Table 23** Parameters of the Font list

<table>
<thead>
<tr>
<th>Column</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>ID number of the font required for programming (command T).</td>
</tr>
<tr>
<td>Name</td>
<td>Name with which the font is saved internally.</td>
</tr>
<tr>
<td>Type</td>
<td>Type of font generation. It provides information on the variability of the font and is important when programming (command T).</td>
</tr>
<tr>
<td>Description</td>
<td>Explanations of the font: size, font family. The printout occurs in the appropriate font.</td>
</tr>
</tbody>
</table>
7 Test Functions

7.4 Device List

The Device List function prints out the most important information on hardware components of the printer and connected devices. The printout occurs using the heat level and print speed specified in the Setup > Printing menu.

Notice!
The printout occurs without taking the label gaps into consideration. This is why endless media are most suitable for this purpose.

► Insert printable medium (labels, endless paper) which extends across the entire printing width.
► If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.
► Start menu.
► Select Test > Device list.

The printout can be canceled with the [ Abort Job ] button.

![Device List Printout]

Figure 18 Device list
Parameters marked italic are only printed when the service key is inserted

<table>
<thead>
<tr>
<th>Name</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>Type and serial number of the PCB CPU</td>
</tr>
<tr>
<td></td>
<td>Revision of PCB CPU and FPGA</td>
</tr>
<tr>
<td>TPH</td>
<td>Print width and resolution of the installed thermal printhead</td>
</tr>
<tr>
<td>IF [x]</td>
<td>Type of interfaces installed</td>
</tr>
<tr>
<td></td>
<td>x: Number of interface</td>
</tr>
<tr>
<td>IFFS</td>
<td>Size of the Internal Flash File System</td>
</tr>
<tr>
<td>USBMEM</td>
<td>Size and type of an installed USB storage device</td>
</tr>
<tr>
<td>SD</td>
<td>Size and type of an installed SD card</td>
</tr>
<tr>
<td>USB [a]</td>
<td>Type and revision of installed USB devices</td>
</tr>
<tr>
<td></td>
<td>a: number of USB device</td>
</tr>
<tr>
<td>Speed</td>
<td>Speed: data transfer speed (low, full, high)</td>
</tr>
<tr>
<td>HEALTH</td>
<td>Printhead voltage, charge state of the lithium battery on the PCB CPU,</td>
</tr>
<tr>
<td></td>
<td>temperature of CPU and printhead</td>
</tr>
<tr>
<td>Line pattern</td>
<td>Lines differing in thickness at various distances. They are used to evaluate the print quality.</td>
</tr>
</tbody>
</table>

Table 24 Parameters of the Device list
7.5  

Test Grid

The Test grid function prints out a geometric pattern on a background grid. This allows you to assess the evenness of the print quality.

The printout occurs using the heat level and print speed specified in the Setup > Printing menu.

Notice!
The printout occurs without taking the label gaps into consideration. This is why endless media are most suitable for this purpose.

- Insert printable medium (labels, endless paper) which extends across the entire printing width.
- If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.
- Start menu.
- Select Test > Test grid.
  The geometric pattern is printed every 3 seconds once the Test grid function is started.

The printout can be canceled with .

![Test Grid Image]

Figure 19  Test grid
7 Test Functions

7.6 Wi-Fi Status

* Access only when a Wi-Fi stick is installed and Wi-Fi is activated!
Not in the Wi-Fi operation mode "Hotspot".

The Wi-Fi status function prints out a list with the most important parameters of the accessible Wireless Access Points. The printout occurs using the heat level and print speed specified in the Setup > Printing menu.

Notice!
The printout occurs without taking the label gaps into consideration. This is why endless media are most suitable for this purpose.

- Insert printable medium (labels, endless paper) which extends across the entire printing width.
- If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.
- Start menu.
- Select Test > Wi-Fi status.

The printout can be canceled with ☐.

<table>
<thead>
<tr>
<th>Channel</th>
<th>Name/BSS ID</th>
<th>Signal level</th>
<th>Security</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>default</td>
<td>●●●●●</td>
<td>WPA2-PSK</td>
</tr>
<tr>
<td>1</td>
<td>cab-firma</td>
<td>●●●●●</td>
<td>WPA2-PSK</td>
</tr>
<tr>
<td>1</td>
<td>cab-gast</td>
<td>●●●●●</td>
<td>WPA2-PSK</td>
</tr>
<tr>
<td>11</td>
<td>default</td>
<td>●○○○○</td>
<td>WPA2-PSK</td>
</tr>
<tr>
<td>11</td>
<td>cab-firma</td>
<td>●○○○○</td>
<td>WPA2-PSK</td>
</tr>
<tr>
<td>11</td>
<td>cab-gast</td>
<td>○○○○○</td>
<td>WPA2-PSK</td>
</tr>
</tbody>
</table>

Figure 20 Wi-Fi status

The parameters have the following meaning:

<table>
<thead>
<tr>
<th>Column</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel</td>
<td>Channel; frequency range of the Access Point</td>
</tr>
<tr>
<td>Name/BSS ID</td>
<td>Name of the wireless LAN</td>
</tr>
<tr>
<td></td>
<td>MAC address of the Access Points</td>
</tr>
<tr>
<td>Signal level</td>
<td>Scale of the Wi-Fi signal strength</td>
</tr>
<tr>
<td>Security</td>
<td>Type of data encryption</td>
</tr>
</tbody>
</table>

Table 25 Parameters of the Wi-Fi status
**8.1 Printhead**

The function *Printhead* provides an overview of important status information concerning the printhead on the display of the printer.

- Start menu.
- Select **Diagnostics > Printhead**.
- Return with **Close**.

The following parameters are displayed:

<table>
<thead>
<tr>
<th>Line</th>
<th>Meaning</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Serial number of the printhead</td>
<td>Serial no. 68-0252</td>
</tr>
<tr>
<td>2</td>
<td>Part number of the printhead</td>
<td>Part no. 5977444</td>
</tr>
<tr>
<td>3</td>
<td>Firmware revision of the printhead</td>
<td>Firmware 2.1.0</td>
</tr>
<tr>
<td>4</td>
<td>Temperature of the printhead</td>
<td>Temperature 26.2 °C</td>
</tr>
<tr>
<td>5</td>
<td>Resolution of the printhead</td>
<td>Resolution 12 DPMM (dots/millimeter)</td>
</tr>
<tr>
<td>6</td>
<td>Print width / Number of dots</td>
<td>Width/No. of dots 106mm/1248</td>
</tr>
<tr>
<td>7</td>
<td>Operative time/Number of printed labels with the current printhead</td>
<td>Hours/No. of labels 424h/32018</td>
</tr>
<tr>
<td>8</td>
<td>Previously printed paper lengths with thermal direct printing / thermal transfer printing</td>
<td>Thermal/Transfer 29.04m/286.42m</td>
</tr>
<tr>
<td>9</td>
<td>Previously printed paper length with heat level &lt; 0</td>
<td>Heat level &lt;0 44.31m</td>
</tr>
<tr>
<td>10</td>
<td>Previously printed paper length with heat level 0 - 7</td>
<td>Heat level 0-7 219.93m</td>
</tr>
<tr>
<td>11</td>
<td>Previously printed paper length with heat level 8 - 14</td>
<td>Heat level 8-14 50.41m</td>
</tr>
<tr>
<td>12</td>
<td>Previously printed paper length with heat level &gt; 14</td>
<td>Heat level &gt;14 0.81m</td>
</tr>
<tr>
<td>13</td>
<td>Resistance of the printhead</td>
<td>Resistance 1110Ω</td>
</tr>
<tr>
<td>14</td>
<td>Description of the printhead</td>
<td>Description 4&quot;7300dpi/Kyocera</td>
</tr>
</tbody>
</table>

Table 26 Printhead display
ASCII Dump Mode offers the option of checking incoming control sequences at an interface. The commands are printed out as text. In addition, a corresponding error message is printed out immediately after an error occurs.

The printout occurs using the heat level and print speed specified in the Setup > Printing menu.

**Notice!**
The printout occurs without taking the label gaps into consideration. This is why endless media are most suitable for this purpose.

- Insert printable medium (labels, endless paper) which extends across the entire printing width.
- If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.
- Start menu.
- Select Diagnostics > ASCII Dump Mode.
- Send print jobs.
- Select to cancel the printout or switch to the Ready mode.

**Example:**

![ASCII Dump Mode](image)

**Figure 21** Example label printed normally (left) and in ASCII dump mode (right)

The control characters (ASCII-Code 00...31) are presented in stylized design.

- \( \text{LF} \): Code 10 (0A) - line feed
- \( \text{CR} \): Code 12 (0D) - carriage return
8.3  Label Profile

The Label profile function carries out a longer label advance. It saves the values measured by the label sensor here and then prints them out in a diagram.
The printout is used to check label detection in conjunction with the optical properties of the label medium.
The printout occurs using the heat level and print speed specified in the Setup > Printing menu.

Notice!
The printout occurs without taking the label gaps into consideration. This is why endless media are most suitable for this purpose.

- Select the label sensor to be tested in the Setup > Labels menu.
- Load the label medium to be tested into the printer.
- Start menu.
- Select Diagnostics > Label profile.
  The printer performs a longer label advance. The label sensor measures the transparency/reflection capacity of the label material here. The message Insert appears in the display once the advance is complete.
- Insert printable medium (labels, endless paper) which extends across the entire printing width.
- If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.
- Start the diagram printout with Continue.

The printout can be canceled with .

Table 27  Information in Label profile
8 Diagnostic Functions

8.4 Event Log

The label printer saves the following events in the Event log:

- Hardware fault
- Printhead replacement
- Firmware updates
- Changing the OEM name
- Resetting of the service counters

The printout occurs using the heat level and print speed specified in the Setup > Printing menu.

Notice!
The printout occurs without taking the label gaps into consideration. This is why endless media are most suitable for this purpose.

- Insert printable medium (labels, endless paper) which extends across the entire printing width.
- If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.
- Start menu.
- Select Diagnostics > Event log,

### Event log

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.08.17</td>
<td>TPH (#59-0051) -&gt; 300 dpi, 1248 dots</td>
</tr>
<tr>
<td>20.09.17</td>
<td>Firmware update -&gt; V5.10 (0000)</td>
</tr>
<tr>
<td>04.10.17</td>
<td>Firmware update -&gt; V5.11 (0000)</td>
</tr>
<tr>
<td>15.10.17</td>
<td>Printer model: cab SQUIX 4/300MP</td>
</tr>
<tr>
<td>19.12.17</td>
<td>Firmware update -&gt; V5.13 (0000)</td>
</tr>
<tr>
<td>05.09.18</td>
<td>Clear service counters</td>
</tr>
<tr>
<td>11.10.18</td>
<td>Cleaning interval -&gt; 41242 + 1000000</td>
</tr>
</tbody>
</table>

Figure 23 Event log
8.5 Record Data Stream

Access only with external storage device!

The function Record data stream allows to store data incoming via an interface as an .lbl file to an external storage device (SD card, USB memory module) installed on the printer.

- Insert SD card or USB memory module.
- Start menu.
- Select Diagnostics > Record data stream.
- Select the external storage device.
- Enter a file name.
  The predefined name is composed of the identifier "log", date, clock time and the suffix ".lbl", but may also be altered.
  Confirm the selection with .
- In the status line of the display the data saving is indicated by the symbol .
- Send print jobs. All data received by the printer are stored in the .lbl file.
- To complete the function select Diagnostics > Record data stream again and confirm with OK. The .lbl file will be stored in the root of the storage device.

![Image of .lbl file editor]

Figure 24 Data stream record
8 Diagnostic Functions

8.6 Save Print Image

* Access only with external storage device!

The function *Save print image* allows to store the last print image as a .png file to an external storage device (SD card, USB memory module) installed on the printer.

▶ Insert SD card or USB memory module.
▶ Start menu.
▶ Select Diagnostics > Save print image.
▶ Select the external storage device.
▶ Enter a file name.
   The predefined name is composed of the identifier "img", date, clock time and the suffix ".png", but may also be altered.
▶ Confirm the selection with . The .png file will be stored in the root of the storage device.

Figure 25   Saved print image
8.7  Save System Log

Access only with external storage device!

The function Save system log allows to store several system files packed to a .zip file to an external storage device (SD card, USB memory module) installed on the printer.

1. Insert SD card or USB memory module.
2. Start menu.
3. Select Diagnostics > Save system log.
4. Select the external storage device.
5. Enter a file name.
   The predefined name is composed of the identifier "sys", date, clock time and the suffix ".png", but may also be altered.
6. Confirm the selection with . The display shows the several steps of saving.

Figure 26  System log saving

7. Confirm the completion of saving with . The .zip file will be stored in the root of the storage device.
9 Extras

9.1 Firmware Update

Notice!
The firmware file can be obtained from the internet.

* Access only with external storage device!

- Copy the firmware file to the "misc" directory of the storage device. This can be done on a computer or via FTP on the printer.
- Insert the prepared storage device into the printer.
- Start menu.
- Select Extras.
  If the menu is protected via a PIN a prompt appears in the display. Enter the code number and confirm it.
- Select Firmware update.
  The display shows the selection of external storage devices and firmware files stored on the devices.
- Select a file and confirm with ✔.
  The selected firmware file is copied. A progress indicator is displayed while the firmware is being copied. After completion the printer will be re-started.

Notice!
The firmware update also can be done via FTP printer management ➔ "13.4" on page 65.

9.2 Calibrate Label Sensor

SQUIX / EOS
With the Calibrate label sensor function the SQUIX printers electronics can be adapted to the label sensor and the used liner material. This is necessary if sensor itself or CPU PCB has been changed.

- Start menu.
- Select Extras > Calibrate label sensor.
  The display shows Step 1/2 Remove labels.
- Remove labels and select Continue.
  After a few seconds the display shows Step 2/2 Insert liner.
- Insert the liner without labels and select Continue.
  After a few seconds the message Sensor successfully calibrated appears.
  The display shows the characteristic values of the sensors e.g. Brightness 12-28.
- Select Continue to quit the function.

MACH 4S
With the Calibrate label sensor function the MACH 4S printers electronics can be adapted to the label sensor and the used liner material and transfer ribbon. This is necessary if sensor itself or CPU PCB has been changed.

- Start menu.
- Select Extras > Calibrate label sensor.
  The display shows Step 1/4 Remove labels and ribbon.
- Perform step 1 and select Continue.
  After a few seconds the display shows Step 2/4 Insert liner.
- Perform step 2 and select Continue.
  The display shows Step 3/4 Remove liner, insert ribbon.
- Perform step 3 and select Continue.
  The display shows Step 4/4 Insert liner and ribbon.
- Perform step 4 and select Continue.
  After a few seconds the message Sensor successfully calibrated appears.
  The display shows the characteristic values of the sensors e.g. Brightness 2-5 / 18-111.
- Select Continue to quit the function.
9.3  Save Settings

With the Save settings function the printer configuration can be saved to a storage device.

- Start menu.
- Select Extras.
  If the menu is protected via a PIN a prompt appears in the display. Enter the code number and confirm it.
- Select Save settings.
- Select the external storage device.
- Enter a file name.
  The predefined name is composed of the identifier "gui", date, clock time and the suffix ".xml", but may also be altered.
- Confirm the selection with . The .xml file will be stored in the folder /misc of the storage device.

An error message appearing during the saving procedure may be caused by an unreadable medium (e.g. unknown medium, unformatted medium) in "14.5.4" on page 68.

9.4  Load Settings

A printer configuration previously saved to a storage device can be loaded with the Load settings function.

- Start menu.
- Select Extras.
  If the menu is protected via a PIN a prompt appears in the display. Enter the code number and confirm it.
- Select Load settings.
- Select the desired file.
- Confirm the selection with . Loading of the configuration data starts. Do not remove the USB flash drive until the loading procedure is complete. The printer returns to the Extras menu.

If an error occurs during the loading procedure, an error message appears in the display. Restart the loading procedure in this case. If an error occurs again, the configuration parameters must be entered via the control panel.

9.5  Reset Settings

With the Default settings function all setup parameters excepting the passwords in " 16 can be reset to the default values.

- Start menu.
- Select Extras.
  If the menu is protected via a PIN a prompt appears in the display. Enter the code number and confirm it.
- Select Reset settings.
  The display shows "Reset settings".
- Select Continue. The setup parameters will be reset and printer returns to the Extras menu.
9 Extras

9.6 Reset Passwords

The function Reset passwords allows to reset all passwords for the network services to the default values.

► Start menu.
► Select Extras.
  If the menu is protected via a PIN a prompt appears in the display. Enter the code number and confirm it.
► Select Reset passwords.
  The display shows "Reset passwords".
► Select Continue. The passwords will be reset and printer returns to the Extras menu.

<table>
<thead>
<tr>
<th>Function</th>
<th>User name</th>
<th>Password</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web interface access</td>
<td>admin</td>
<td>admin</td>
</tr>
<tr>
<td>FTP printing</td>
<td>ftpprint</td>
<td>print</td>
</tr>
<tr>
<td>FTP access to storage devices</td>
<td>ftpcard</td>
<td>card</td>
</tr>
<tr>
<td>FTP firmware update</td>
<td>ftpadmin</td>
<td>admin</td>
</tr>
<tr>
<td>Web service</td>
<td>soap</td>
<td>soap</td>
</tr>
</tbody>
</table>

Table 28  Default passwords

9.7 Cleaning Interval

With the parameter Cleaning interval an interval for the printhead cleaning can be set in steps of 100 m media passage. If the set length of the medium (label strip, transfer ribbon) has passed the printhead and an error occurs in the flow of the medium (e.g. label end, transfer ribbon end), the Clean printhead! message appears in the display.

The error message for the error which occurred is not displayed until the Clean printhead! message is acknowledged.

As long as no errors occur in the medium flow, no messages are displayed and the print job is continued even if the cleaning interval has passed.

► Start menu.
► Select Extras.
  If the menu is protected via a PIN a prompt appears in the display. Enter the code number and confirm it.
► Select Cleaning interval.
► Select a new value and confirm the selection with ▪.

9.8 Legal Notices

The Legal notices function shows the licenses and software libraries of third party solutions used in the printer firmware.

► Start menu.
► Select Extras.
  If the menu is protected via a PIN a prompt appears in the display. Enter the code number and confirm it.
► Select Legal notices.
  The notices will be shown on the display
► Select Close to leave the notices.
The Help menu contains video clips about important operations.

- Start menu.
- Select Help.
  A list of clips will be shown.
- Select a clip.
  The playback of the clip will start.

Figure 27  Help video clip

The playback can be controlled by buttons:

<table>
<thead>
<tr>
<th>Button</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>🎥</td>
<td>Leave current clip, return to clip selection</td>
</tr>
<tr>
<td>🔮</td>
<td>Pause playback</td>
</tr>
<tr>
<td>🎥</td>
<td>Start playback</td>
</tr>
<tr>
<td>🎥</td>
<td>Stop playback, return to start</td>
</tr>
</tbody>
</table>

Figure 28  Buttons for playback control
11 Service Menu

11.1 Reset Service Counter

Access only with service key inserted!

The printer has total and service counters.

- Total counter: The total counter contains the values for the entire service life of the printer up to now. The values of the total counter are displayed in the Info menu and in the Status print.
- Service counter: The service counter can be reset after more substantial maintenance or repair work with the service key inserted. Here, it provides information on the printing output since the last reset. The values of the service counter are displayed in the Status print.

The following data is recorded in both counters:

<table>
<thead>
<tr>
<th>Data</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operative time</td>
<td>Printer switch-on time</td>
</tr>
<tr>
<td>Number of labels</td>
<td>Number of labels printed</td>
</tr>
<tr>
<td>Transfer printing</td>
<td>Length of medium printed with transfer printing</td>
</tr>
<tr>
<td>Thermal printing</td>
<td>Length of medium printed with thermal direct printing</td>
</tr>
</tbody>
</table>

Table 29  Total and service counter data

- Insert service key into an USB master interface.
- Start menu.
- Select Service > Reset service counter.
- The display shows Reset service counter.
- Select Continue. The data recorded by the service counter is set to the value 0.

The status print can be used to check whether the values were reset.

11.2 Printhead Zero Position X

Access only with service key inserted!

The purpose of the Printhead zero pos. X setting is to fundamentally align the printing image to the printhead perpendicular to the printing direction in order to compensate for printhead tolerances.

- Determine the deviation of the actual from theoretical position of the printing image perpendicular to the printing direction.
- Select menu Service > Printhead zero pos. X.
- Choose a setting that counteracts deviation.

11.3 Printhead Zero Position Y

Access only with service key inserted!

The purpose of the Printhead zero pos. Y setting is to fundamentally align the printing image to the printhead in the printing direction in order to compensate for printhead tolerances.

- Determine the deviation of the actual from theoretical position of the printing image in the printing direction.
- Select menu Service > Printhead zero pos. Y.
- Choose a setting that counteracts deviation.
11.4 Printer Model

Access only with service key inserted!

With the Printer model function the firmware can be adapted to the device type.

► Start menu.
► Select Service > Printer Model.
► Select a model.

Following the Info function, all test prints and the web interface show the selected printer model.

11.5 No Branding

Access only with service key inserted!

With the activation of the No branding parameter the cab Logo in the display can be suppressed.

► "3.2" on page 12

► Start menu.
► Select Service > No Branding.
► Activate the parameter.
12 I/O Interface

* Not at MACH 4S!

For use in a network the printer is equipped with an I/O interface.

12.1 Pin Assignment

The interface has a 25 pin SUB-D connector.

![I/O interface](image)

**Note!**

The function of the outputs on the pins 4, 9, 10 and 21 can be re-defined temporarily by direct programming e.g. to control external devices with the user bits 0 to 3 ➔ Programming Manual.

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal</th>
<th>Name</th>
<th>Description</th>
<th>Activation / Active State</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>FSTLBL</td>
<td>Print first label only for Cycle sequence = Apply-Print</td>
<td>+24 V between Pin 1 and Pin 25</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td>Do not use</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>ENDPOS</td>
<td>Applicator is in the position of transferring the label onto the product.</td>
<td>+24 V on Pin 3</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>FEEDON</td>
<td>Media transport ON Labels are fed by the printer</td>
<td>+24 V on Pin 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bit 0 User Bit 0 is set</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>HOMEPOS</td>
<td>Applicator is in the position where the label is taken up from the printer.</td>
<td>+24 V on Pin 5</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>GND(UINT</td>
<td>Ground (0 V) for sensors or trigger switches</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td>Do not use</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td>Do not use</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>JOBRDY</td>
<td>Print job ready</td>
<td>+24 V on Pin 9</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Print jobs are stored in the print module.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bit 1 User Bit 1 is set</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>READY</td>
<td>Printer is ready</td>
<td>+24 V on Pin 10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bit 2 User Bit 2 is set</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td>Do not use</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>REPRINT</td>
<td>The last printed label will be repeated.</td>
<td>+24 V between Pin 12 and Pin 25</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>START</td>
<td>Print start signal only for Print on demand = On</td>
<td>+24 V between Pin 13 and Pin 25</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>PAUSE</td>
<td>Pause ON/OFF</td>
<td>Pause ON when +24 V between Pin 14 and Pin 25</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>RIBWARN</td>
<td>Warning end of ribbon The ribbon supply roll diameter has undershot a predefined level</td>
<td>0 V on Pin 15</td>
</tr>
<tr>
<td>16</td>
<td></td>
<td>LBLREM</td>
<td>Label removed For peel-off mode only. Confirmation of the superior control that the label has been taken from the peel-off position. Required for the validity of a new start signal.</td>
<td>Switch on +24 V between Pin 16 and Pin 25</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td>JOBDEL</td>
<td>Cancel print job Depending on the setting of the parameter JOBDEL mode only the current print job is canceled and deleted from the print buffer or all jobs in buffer are canceled.</td>
<td>Switch on +24 V between Pin 17 and Pin 25</td>
</tr>
</tbody>
</table>
12 I/O Interface

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal</th>
<th>Name</th>
<th>Description</th>
<th>Activation / Active State</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td></td>
<td>RSTERR</td>
<td>Reset</td>
<td>Switch on +24 V between</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Error state of the printer will be reset.</td>
<td>Pin 18 and Pin 25</td>
</tr>
<tr>
<td>19</td>
<td></td>
<td>P24_INT</td>
<td>Internal operating voltage +24 V, Si/T 100mA for external</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>consumers e.g. sensors, trigger switches</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>COMMON</td>
<td>External reference potential for the outputs</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
<td>PEELPOS</td>
<td>Label in peel-off position</td>
<td>+24 V on Pin 21</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>For peel-off mode only.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>A label is in peel-off position.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bit 3 is set</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td></td>
<td>ERROR</td>
<td>General error message</td>
<td>0 V on Pin 22</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The operation will be stopped and the error type will be</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>displayed.</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td></td>
<td>STOP</td>
<td>Stop signal to interrupt the operation</td>
<td>Switch on +24 V between</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pin 23 and Pin 25</td>
</tr>
<tr>
<td>24</td>
<td></td>
<td></td>
<td>Do not use</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>GND_EXT</td>
<td>Ground of the external 24 V</td>
<td></td>
</tr>
</tbody>
</table>

Table 30   Pin assignment of the I/O interface

12.2 Circuit Diagram of Inputs and Outputs

Digital Inputs
- conform to IEC/EN 61131-2 (Type 1+3)
- Operating voltage: 24 V DC (18..30 V)
- Switching logic: PNP switching
- Low level „0“: < 5 V DC
- High level „1“: > 15 V DC
- Input current per channel: 4..5 mA (at 24 V DC)
- Galvanic isolation: 3,75 kV
- Reverse polarity protection: yes
- ESD protection: up to 8 kV

Digital Outputs
- conform to IEC/EN 61131-2
- Operating voltage: 24 V DC (18..30 V)
- Switching logic: NPN/PNP switching
- Output current per channel: 700 mA
- Total output current: 700 mA (overload protection)
- Galvanic isolation: 3,75 kV
- Short-circuit protection: yes
- Reverse polarity protection: yes
- ESD protection: up to 8 kV

Pin 1  FSTLBL  Pin 10  COMMON
Pin 11 - Pin 11 - Pin 12  REPRINT  Pin 13  ENDPOS
Pin 13  START  Pin 14  FEEDON
Pin 15  LBLREM  Pin 16  JOBDL
Pin 17  RSTERR  Pin 18  READY
Pin 19  STOP  Pin 20  RIBWARN
Pin 21  GND_EXT  Pin 22  ERROR

Figure 30 Connecting inputs  Figure 31 Connecting outputs
12 I/O Interface

12.3 Solution Examples

12.3.1 Peeling-off on Demand with Present Sensor PS800 / PS900 / PS1000

In the standard peel-off mode a label will be printed immediately after the previous label has been taken from the peel position.

Using the I/O interface the print of the next label can be triggered by an external signal.

Requirements:
• Operation with Present Sensor PS800, PS900 or PS1000
• External circuit as shown in Figure 32.
• Setting Printing > Print on Demand = "On".

Operation:
► Send a print job.
► Activate START.
  The first label will be printed and transported to the peel position.
► Remove the label.
► Activate START to start the next cycle.

![Diagram of external circuit for peeling-off on demand with Present Sensor PS800 / PS900 / PS1000](image-url)

Figure 32  External circuit for peeling-off on demand with Present Sensor PS800 / PS900 / PS1000
**I/O Interface**

### 12.3.2 Peeling-off on Demand without Present Sensor

In the peel-off mode with PS800 or PS900 the label removal from the peel position is detected by an optical sensor. Using the I/O interface the label removal can be confirmed by the external signal **LBLREM**. That way it is possible to operate the printer in peel-off mode without present sensor.

**Starting Print and Confirming Label Removal with Two Signals**

Requirements:
- Operation without present sensor.
- External circuit as shown in Figure 33
- Setting **Printing > Print on Demand** = "On".
- Setting **Interfaces > I/O > Automatic LBLREM** = "Off"

Operation:
- Send a print job.
- Activate **START**.
  - The first label will be printed and transported to the peel position.
- Remove the label.
- Confirm the label removal with signal **LBLREM**.
- Activate **START** to start the next cycle.

---

**Figure 33**  
External circuit for peeling-off on demand without present sensor with two signals
12 I/O Interface

Starting Print and Confirming Label Removal with Signal LBLREM

Requirements:
• Operation without present sensor.
• External circuit as shown in Figure 34.
• Setting Printing > Print on Demand = "On".
• Setting Interfaces > I/O > START mode = "Level".
• Setting Interfaces > I/O > Automatic LBLREM = "Off".

Operation:
▸ Hold signal START permanently active.
▸ Send a print job.
   The first label will be printed and transported to the peel position.
▸ Remove the label.
▸ Confirm the label removal with signal LBLREM.
   The next cycle will be started.

Figure 34  External circuit for peeling-off on demand without present sensor with switching signal LBLREM
Starting Print and Confirming Label Removal with Signal START

Requirements:
- Operation without present sensor.
- External circuit as shown in Figure 35
- Setting Printing > Print on Demand = "On".
- Setting Interfaces > I/O > START mode = "Level".
- Setting Interfaces > I/O > Automatic LBLREM = "On".

Operation:
- Send a print job.
- Activate START and hold it active. The first label will be printed and transported to the peel position.
- Remove the label.
- Confirm the label removal with deactivation of START.
- Activate START again to start the next cycle.

Operation with external voltage supply

Operation using the internal voltage

Figure 35  External circuit for peeling-off on demand without present sensor with switching signal START
12 I/O Interface

12.3.3 Cutting on Demand with Cutter CU400

In the standard cut mode all labels of a print job will be printed and cut one after another without interruption. Using the I/O interface the print job can be split into single steps with printing and cutting each one label.

Requirements:
• Operation with Cutter CU400.
• External circuit as shown in Figure 36.
• Setting Printing > Print on Demand = "On".

Operation:
► Send a print job.
► Activate START. The first label will be printed and cut
► Activate START to start the next cycle.

Operation with external voltage supply

Operation using the internal voltage

Notes!
The function of the signal START can be released alternatively by pressing on the touchscreen display.
12.3.4 Pausing and Continuing a Print Job

In the standard operation without a peripheral device connected all labels of a print job will be printed without interruption.

To adapt the label output of the printer e.g. to an external device with a lower transport speed the print job can be interrupted meanwhile.

Requirements:
- Operation without peripheral device.
- External circuit as shown in Figure 37.
- Setting "Printing > Print on Demand = "Off".

Operation:
- Send a print job.
  The labels of the print job will be printed one after the other.
- Activate the signal PAUSE.
  After completion of the current label the print job will be paused.
- Deactivate the signal PAUSE.
  The print job will be continued.

![Diagram](image-url)

Figure 37  External circuit for pausing and continuing a print job
### 12.3.5 Connecting an Optical Sensor

Optical sensors can be used to switch the input signals. The example shows the circuit for the signal START.

<table>
<thead>
<tr>
<th>Label</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSTLBL</td>
<td>1</td>
</tr>
<tr>
<td>ENDPOS</td>
<td>2</td>
</tr>
<tr>
<td>FEEDON</td>
<td>3</td>
</tr>
<tr>
<td>HOMEPOS</td>
<td>4</td>
</tr>
<tr>
<td>GND_INT</td>
<td>5</td>
</tr>
<tr>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>-</td>
<td>7</td>
</tr>
<tr>
<td>-</td>
<td>8</td>
</tr>
<tr>
<td>JOBRDY</td>
<td>9</td>
</tr>
<tr>
<td>READY</td>
<td>10</td>
</tr>
<tr>
<td>-</td>
<td>11</td>
</tr>
<tr>
<td>REPRINT</td>
<td>12</td>
</tr>
<tr>
<td>START</td>
<td>13</td>
</tr>
<tr>
<td>PAUSE</td>
<td>14</td>
</tr>
<tr>
<td>RIBWARN</td>
<td>15</td>
</tr>
<tr>
<td>LBLREM</td>
<td>16</td>
</tr>
<tr>
<td>JOBDEL</td>
<td>17</td>
</tr>
<tr>
<td>RSTERR</td>
<td>18</td>
</tr>
<tr>
<td>P24_INT</td>
<td>19</td>
</tr>
<tr>
<td>COMMON</td>
<td>20</td>
</tr>
<tr>
<td>PEELPOS</td>
<td>21</td>
</tr>
<tr>
<td>ERROR</td>
<td>22</td>
</tr>
<tr>
<td>STOP</td>
<td>23</td>
</tr>
<tr>
<td>-</td>
<td>24</td>
</tr>
<tr>
<td>GND_EXT</td>
<td>25</td>
</tr>
</tbody>
</table>

**Diagram:**

- Sensor with pnp output
- Sensor with npn output

*depending on sensor type

**Figure 38** External circuit for releasing the signal START using optical sensors

* depending on sensor type
FTP Printer Management

The File Transfer Protocol (FTP) allows to manage and transfer files on the network via the Ethernet interface or Wi-Fi adapter. An FTP program (FTP client) is required which supports the "binary" transfer mode to manage the printer. The printer functions as an FTP server.

FTP printer management is comprised of four functions:

- Direct printing via copying JScript or ZPL files.
- Management of the memory media installed in the label printer
- IFFS management
- Firmware update.

13.1 FTP Login

To establish an FTP connection, the client must be logged on to the server. The login type depends on the client. The following information must be specified in any case, however:

- IP address of the label printer
- User name and password

Access to the printer management functions depends on the user name:

<table>
<thead>
<tr>
<th>Function</th>
<th>User name</th>
<th>Default password</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTP printing, loading PPP vouchers</td>
<td>ftpprint</td>
<td>print</td>
</tr>
<tr>
<td>FTP access to storage devices</td>
<td>ftpcard</td>
<td>card</td>
</tr>
<tr>
<td>FTP firmware update</td>
<td>ftpadmin</td>
<td>admin</td>
</tr>
</tbody>
</table>

Table 31 Default passwords

**Notice!**

- The passwords can be changed in the "Setup" tab of the web interface [page 32].

After logging on the FTP server is accessible in a manner similar to a Windows folder.

13.2 FTP Printing

Label files in cab JScript format (> Programming Manual) or in ZPL format can be printed directly via FTP connection:

- Establish a FTP connection with the user name ftpprint and the defined password (Default: print)
  An empty folder of the FTP server will be shown.

- Copy a label file in JScript or ZPL format to the folder of the FTP server.
  Printing of the label file is started immediately. The corresponding file is deleted once the print job is complete.

- Close the FTP connection.

13.3 FTP Access to Storage Devices

FTP connection allows to manage data of a storage device:

- Establish a FTP connection with the user name ftpcard and the defined password (Default: card).
  The content of the storage device will be shown. The files are separated into several subfolders.

- Manage the files as necessary. When copying files to the folder, type-based sorting occurs automatically in the subfolders.

- Close the FTP connection.
13 FTP Printer Management

13.4 FTP Firmware Update

FTP allows to carry out a firmware update:

- Establish a FTP connection with the user name ftpadmin and the defined password (Default: admin).
  An empty folder of the FTP server will be shown.
- Copy a valid firmware file (e.g. 500_6714.cfw) to the folder.
  The status of the saving procedure is shown by a progress indicator in the display. The printer resets automatically after the update is carried out successfully.
- Close the FTP connection.

Whether the firmware update was carried out successfully can be checked on the "Status" tab of the web interface.


Storage Devices

Label descriptions, graphics, fonts, and database information can be saved for the long-term on memory media.

Notice!
► Always create a backup copy of external devices in case of a malfunction.

14.1 Suitable Storage Devices

External Devices
► USB flash drive at USB master interface.
► SD cards

Internal Device
► approx. 50 MB flash memory inside the printer (Internal Flash File System IFFS)

14.2 Installation

* For external storage devices only!
► Slide SD card contact-side first into the matching slot until it latches.
  To unlatch SD card press it shortly into the slot and remove it.
  or
► Connect USB flash drive to an USB master interface.

Attention!
Risk of data loss !
► Do not remove the storage device while it is being accessed.

14.3 Directory Structure

On storage devices connected to the printer, the following directory structure is automatically generated when uploading files:

<table>
<thead>
<tr>
<th>Folder name</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>fonts</td>
<td>Font files</td>
</tr>
<tr>
<td>images</td>
<td>Graphic files</td>
</tr>
<tr>
<td>labels</td>
<td>Label description files</td>
</tr>
<tr>
<td>misc</td>
<td>Firmware, PPP, Setup and TMP files</td>
</tr>
</tbody>
</table>

Table 32 Directory structure
14 Storage Devices

14.4 Writing

The storage devices can be written to in several ways. The most functionally secure way is writing to the storage device via a data interface.

Attention!
The device selected as Default storage is written to by default. To write to another device specify the path name of the device in the file name (> Programming Manual).

Example:
With direct programming, the command sequence for saving a label (file XYZ) has the following form:

Ms LBL; XYZ
J
H 100,0,T
S I:0.0,68,71,104
T 10,10,0.3,pt15;memory card
A 1[NOPRINT]
Ms LBL

• After transfer of the command sequence, the file XYZ is saved with the commands from J to A.
• Only one label is printed each time the file XYZ is called up.
• The [NOPRINT] parameter in command A suppresses the printing of a label when the file is saved.
• To print the label a variable number of times, use command A [?].

14.5 Storage Device Functions

14.5.1 Load Label

Labels whose descriptions are saved on the storage device can be printed using the Load label function.

► Start menu.
► Select Storage > Load label.
  The display shows the selection of external storage devices and the label files stored on the devices.
► Select a label and confirm with .
  If a label is selected which was saved with a fixed contents and fixed label quantity, the print job is started immediately.
  If additional input on the label description is required, the display requests to enter the variable data.
  For label descriptions with a variable label quantity, a prompt to enter the label quantity is displayed.
► Enter the label quantity/variable data and select to start the print job.
14.5.2 Print File List

The Print file list function creates a list of the files stored on the default storage device.
- Insert printable medium (labels, endless paper) which extends across the entire printing width.
- If the printout is to occur using thermal transfer printing, insert transfer ribbon with the maximum width.
- Start menu.
- Select Storage > Print file list
  The display shows the selection of storage devices
- Select a storage device and confirm with .
  The directory of the storage device will be printed.

Contents of the printout:
- the name of the storage device
- information on the saved files
- the size of the available memory area

14.5.3 Copy Files

With the Copy files function files can be copied from one to another storage devices.
- Insert the storage devices.
- Start menu.
- Select Storage > Copy files.
- Under the headline Source the selection of storage devices will be shown.
  Select source device.
- Select a folder.
- Select files. One single file or all files (*.*) of the folder can be selected.
  Confirm the selection with .
  Under the headline Destination the selection of storage devices will be shown again.
- Select destination device and folder.
- Confirm the selection with .
  The files are copied. The display shows the message "Copied ... file(s) to [Destination]"
- Select Continue to return to the Storage menu.

14.5.4 Format Storage

The Format function can be used to delete all data from a storage device. This reformat the storage device. So you can also use the Format function if the Unknown card error message appears when using the device.
- Insert storage device
- Start menu.
- Select Storage > Format storage.
  If the function is protected via a PIN a prompt appears in the display. Enter the code number and confirm with OK.
  The display shows the selection of storage devices.
- Select a storage device and confirm the selection with .
  The display shows the message All data on the selected device will be lost.
- Select Continue. The storage device will be formatted.
  Do not remove the device from the printer during the deleting procedure.
  The printer returns to the Storage menu.
14 Storage Devices

14.5.5 Default Storage

With the parameter Default storage Definition the storage device can be defined, which can be operated via interfaces and FTP printer management.

At functions started from the printer display all storage devices are accessible, but the default storage will be offered first.

► Start menu.
► Select Storage > Default storage.
  The display shows the selection of storage devices.
► Select a storage device and confirm the selection with .
Attention!
For the remote access via VNC the firmware version 5.03 or later must be installed.

VNC is a software that allows remote control of a printer’s operation control panel (server) via a computer (client) through input devices like keyboard and mouse.

VNC is not platform dependent and enables the use of a Windows computer as well as a mobile Android or iOS system as an external remote control. The prerequisite for this is the installation of a VNC client on the system used.

Preparing the Computer
► Install the VNC client on the computer.

Preparing the Printer
► Activate the VNC server under Setup > Interfaces > Network services > VNC server.
► Enter password vnc under Security > Password VNC.

For Wireless Access:
► Activate Wi-Fi under Setup > Interfaces > Wi-Fi > Wi-Fi.
► Find out the Wi-Fi-IP-Address under Info.

For Ethernet Access:
► Find out the Ethernet-IP-Address under Info.

Establishing a Connection
► Start the VNC client on the computer.
► Enter the IP address and password vnc in the configuration of the VNC client.
► Activate the connection.
   The menu of the printer will be visible and usable via mouse click, keyboard or touch-pad just like on the printer itself.
16 External Keyboard

An external keyboard or a compatible input device (e.g. barcode scanner) can be connected directly to the printer. Using an external keyboard facilitates the entry of variable data while processing print jobs and printing from storage devices.

Input prompts and the data received from the keyboard are shown in the display.

16.1 Connecting External Keyboard

Any HID compatible USB keyboard can be connected to the printer.

- Insert connection cable of the keyboard into a USB master interface of the printer.

16.2 Keyboard Assignment

- If necessary set the parameter Setup > Region > Keyboard matching to the used keyboard.

**Notice!**

- If the parameter Keyboard is set to Automatic, the keyboard assignment will be defined by the setting of the parameter Country.

The following Country settings have special keyboard assignment:

<table>
<thead>
<tr>
<th>Country</th>
<th>Keyboard</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>USA</td>
</tr>
<tr>
<td>South Africa</td>
<td>USA</td>
</tr>
<tr>
<td>Taiwan</td>
<td>USA</td>
</tr>
<tr>
<td>Mexico</td>
<td>Latin America</td>
</tr>
<tr>
<td>Egypt</td>
<td>Arabic</td>
</tr>
</tbody>
</table>

Table 33 Special assignments Country - Keyboard

For the following Keyboard settings can be switched between two assignments by pressing the CTRL key and the SHIFT key:

<table>
<thead>
<tr>
<th>Keyboard</th>
<th>First assignment</th>
<th>Second assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulgaria</td>
<td>Latin</td>
<td>Cyrillic</td>
</tr>
<tr>
<td>Greece</td>
<td>Latin</td>
<td>Greek</td>
</tr>
<tr>
<td>Iran</td>
<td>Latin</td>
<td>Persian</td>
</tr>
<tr>
<td>Macedonia</td>
<td>Latin</td>
<td>Cyrillic</td>
</tr>
<tr>
<td>Russia</td>
<td>Latin</td>
<td>Cyrillic</td>
</tr>
<tr>
<td>Thailand</td>
<td>Latin</td>
<td>Thai</td>
</tr>
<tr>
<td>Arabic</td>
<td>Latin</td>
<td>Arabic</td>
</tr>
</tbody>
</table>

Table 34 Keyboard settings with double assignment
16.3 Special Key Functions

General:

<table>
<thead>
<tr>
<th>Key</th>
<th>Function Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>Executes the Load label storage device function.</td>
</tr>
<tr>
<td>F2</td>
<td>Prints an additional label from the last print job. Corresponds to [image].</td>
</tr>
<tr>
<td>F3</td>
<td>Repeats the last print job with renewed polling of the variable data and polling of the label quantity.</td>
</tr>
<tr>
<td>F8</td>
<td>Functions like [image].</td>
</tr>
<tr>
<td>Enter</td>
<td>Starts menu</td>
</tr>
<tr>
<td>Esc</td>
<td>Functions like [image].</td>
</tr>
<tr>
<td>Space</td>
<td>Functions like [image].</td>
</tr>
</tbody>
</table>

Table 35 Special key functions: general

In the menu and for entry of variable data:

<table>
<thead>
<tr>
<th>Key</th>
<th>Function Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter</td>
<td>Confirms the input.</td>
</tr>
<tr>
<td>Esc</td>
<td>Cancels the input and returns.</td>
</tr>
<tr>
<td>Shift+Ent</td>
<td>Clears the input line.</td>
</tr>
</tbody>
</table>

Table 36 Special key functions: Menu and data input

⚠️ Attention!  ⬆️

When using a scanner operated as keyboard emulation ensure that the same character set is set for both the scanner and the printer.
The cabFirmwareUpdater, which can be downloaded free of charge from the cab Website, offers an easy way to transfer firmware files from the computer to the printer.

With the cabFirmwareUpdater it is possible to start a firmware update via USB, Ethernet or serial interface:

1. Start the cabFirmwareUpdater.
2. Select the printer model.
3. Select the interface (Port).
4. Choose "Firmware".
5. Locate the firmware file and select it.
6. Click "Update".
   The selected file will be uploaded to the printer. The firmware update will be started automatically.
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