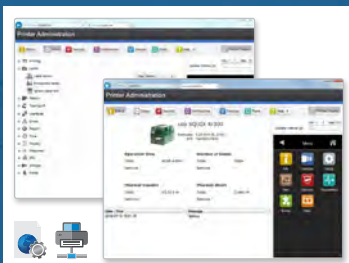




Device list

Mon Jul 15 10:31:00 2019
cab SQUIX 4.000
Firmware V6.22 (Oct 16, 2018) - #154182027430

Name	Description
CPU	X4 #164182027430
PCB	Rev. 0, FPGA-Rev. 1B
TPH	105.7mm 11.806dots/mm X4 V2.1.0, #67-1212
IE 1	Ethernet 10/100 MB/s
	MAC: 00 02 67 05 a8 7d
IF 2	USB 2.0 Device
IF 3	RS-232
IFPS	45 MByte
USB (1)	Linux 3.10.4-rt60, hcd(EHCI) Host Controller
High	Pho_hdc 1 Rev. 3.10



cab Label Printers Configuration Manual

Made in Germany

Family	Type	
SQUIX	SQUIX 2	SQUIX 4
	SQUIX 4.3	SQUIX 6.3
	SQUIX 8.3	
AXON	AXON 1	AXON 2
MACH	MACH 4S	
EOS	EOS2	EOS5
HERMES Q	HERMES Q2	HERMES Q4
	HERMES Q4.3	HERMES Q6.3
PX Q	PX Q4	PX Q4.3
	PX Q6.3	
XC Q	XC Q4	XC Q6.3
XD Q	XD Q4	

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

**Danger!**

Draws attention to an exceptionally great, imminent danger to your health or life due to hazardous voltages.

**Danger!**

Draws attention to a danger with high risk which, if not avoided, may result in death or serious injury.

**Warning!**

Draws attention to a danger with medium risk which, if not avoided, may result in death or serious injury.

**Caution!**

Draws attention to a danger with low risk which, if not avoided, may result in minor or moderate injury.

**Attention!**

Draws attention to potential risks of property damage or loss of quality.

**Note!**

Advices to make work routine easier or on important steps to be carried out.

**Environment!**

Gives you tips on protecting the environment.



Handling instruction



Reference to section, position, illustration number or document.



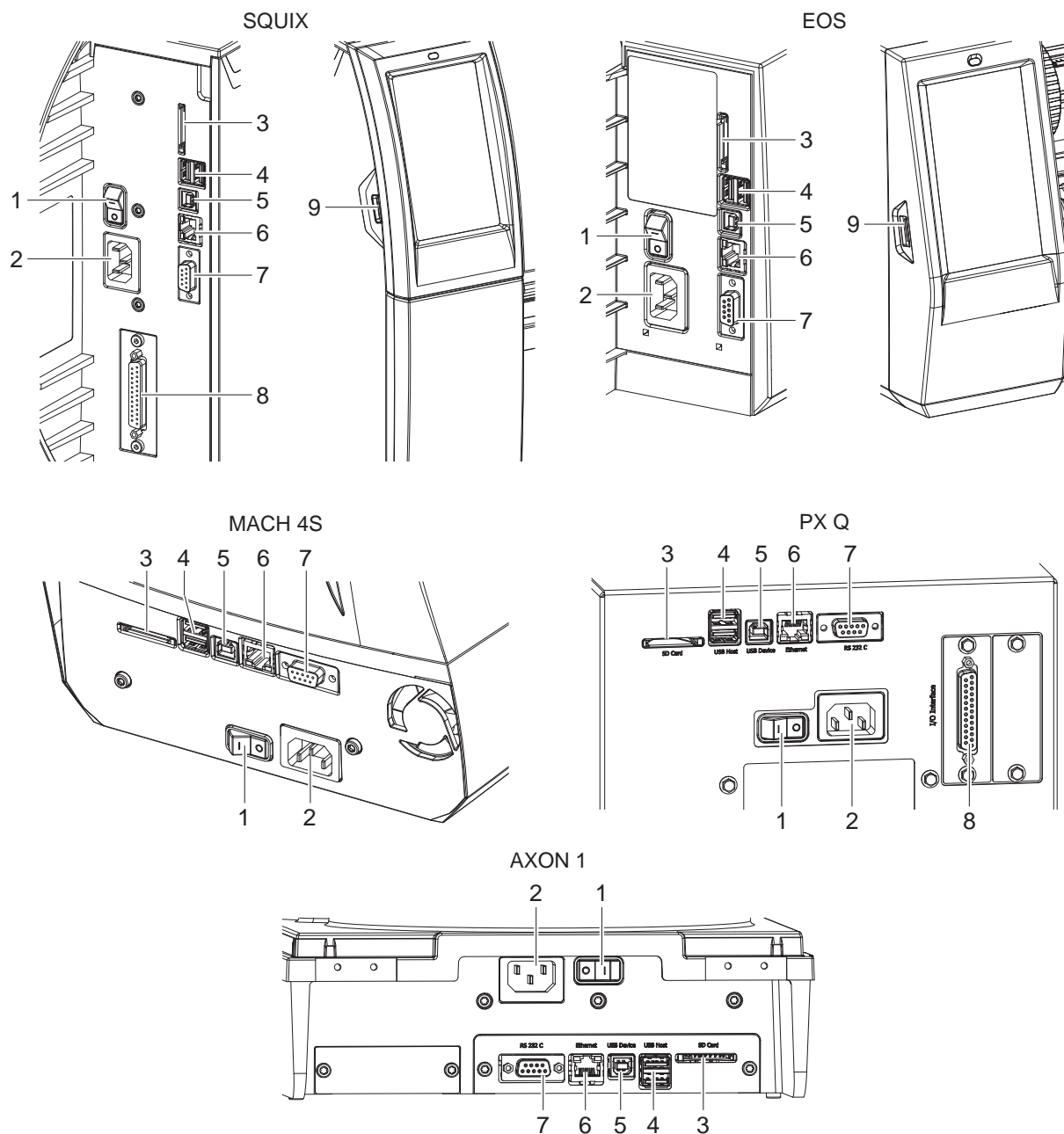
Option (accessories, peripheral equipment, special fittings).

Time

Information in the display.

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

- Connection to the full-speed USB device interface (5) ▷ "2.2" on page 7.
- Direct connection to the Ethernet interface (6) ▷ "2.3" on page 8.
- Connection via a computer network to the Ethernet interface (6) ▷ "2.3" on page 8.
- Wi-Fi connection via WiFi adapter connected to an USB host interface ▷ "2.4" on page 8.
- Connection to the RS-232 interface ▷ "2.5" on page 10.
- Connection via optional Bluetooth adapter connected to an USB host interface (4/9) ▷ "2.6" on page 10.



- | | |
|--|---|
| 1 Power switch | 5 USB Hi-speed device port |
| 2 Power connection jack | 6 Ethernet 10/100 Base-T |
| 3 Slot for SD card | 7 Serial RS-232 port |
| 4 2 USB host ports for keyboard, scanner, USB memory stick, Bluetooth adapter or service key | 8 I/O interface (Option) |
| | 9 USB host port for keyboard, scanner, USB memory stick, Bluetooth adapter or service key |

Figure 1 Connections SQUIX, EOS, MACH 4S, PX Q, AXON 1

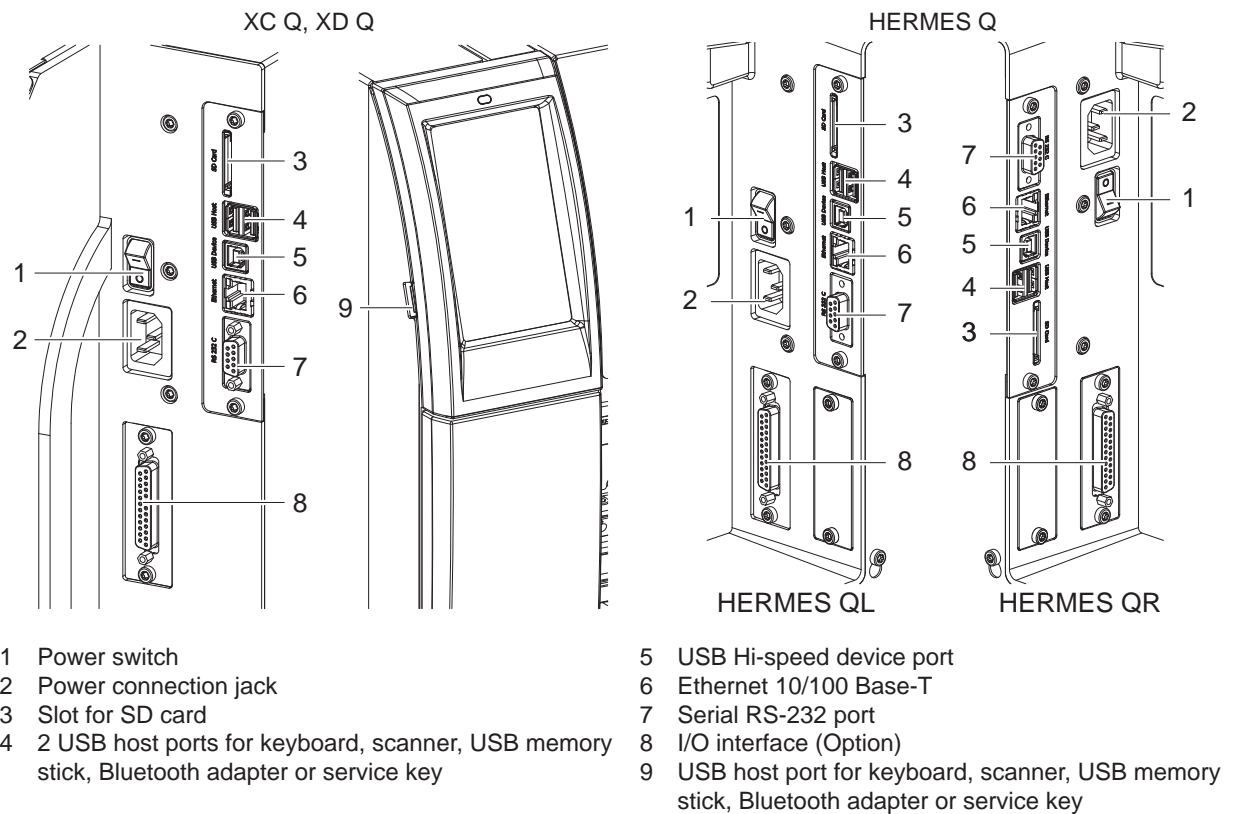


Figure 2 Connections XC Q, XD Q, HERMES Q

2.1 Installing the Windows Printer Driver


To use the printer with Windows applications the matching printer driver can be loaded from the cab Website for the following operating systems:

- Windows 10
- Windows 11
- Windows Server 2016
- Windows Server 2019
- Windows Server 2022

- ▶ Load the Windows printer driver from the cab Website.
- ▶ Install the driver via *Settings > Devices > Printers and Scanner > Add a printer or scanner*.

2.2 Connecting Label Printer via USB Interface

The high-speed USB interface allows the label printer to be operated via a USB interface of a computer:

- ▶ Install the Windows printer driver.
- ▶ Select an USB port as connection.
- ▶ Connect computer and printer with an USB cable.
The widget  appears in the header of the start screen.

2.3 Connecting Label Printer via Ethernet Interface

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

- ▶ Install the Windows printer driver
- ▶ Activate LPD in Windows if necessary.
- ▶ 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 27.

2.3.2 Connecting Printer to Network

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.
The widget appears in the header of the start screen.
- ▶ Make the settings for operation of the Ethernet interface ▷ 6.9 on page 25.
- ▶ Adjust Windows printer setting ▷ 2.3.1 on page 8.



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.

The widget appears in the header of the start screen.

- ▶ Start menu.
- ▶ Select *Setup > Interfaces > Wi-Fi*.
- ▶ Activate *Wi-Fi* ▷ page 25.
- ▶ 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 .
- ▶ Adjust Windows printer setting ▷ 2.3.1 on page 8.



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.

2.4.2 Installing a Hotspot

- * Access only with service Wi-Fi stick installed.

**Note!**

In that mode a Wi-Fi stick installed 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.

The widget  appears in the header of the start screen.

- ▶ Start menu.
- ▶ Select *Setup > Interfaces > Wi-Fi*.
- ▶ Activate *Wi-Fi* ▷ page 25.
- ▶ 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 3 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 RS-232 interface

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

Table 1 Pin assignment of the RS-232 interface

- Install the Windows printer driver
- 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.
- Configure the interface parameters of the interface matching to the settings of the computer. ▷ page 27.


2.6 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 host 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.
The widget  appears in the header of the start screen.
8. Install the current printer with connection via the new COM interface in the label software or in Windows.

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.






























1st Selection Level	2nd Selection Level	3rd Selection Level
 Info		
 Storage		
 Setup	 Printing	
	 Labels	
	 Ribbon	
	 Tearing-off	
	 Cutting	
	 Peeling-off	
	 Labelling	
	 RFID	
	 Interfaces	 Ethernet
		 Wi-Fi
		 Network services
		 RS-232
		 I/O
	 Errors	
	 Region	
	 Time	
	 Display	
	 Interpreter	
	 ZPL	
 Test		
 Security		
 Diagnostics		
 Extras		
 Help		
 Service		

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.



Figure 4 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 degree ▷ "6.13" on page 29.



Note!

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

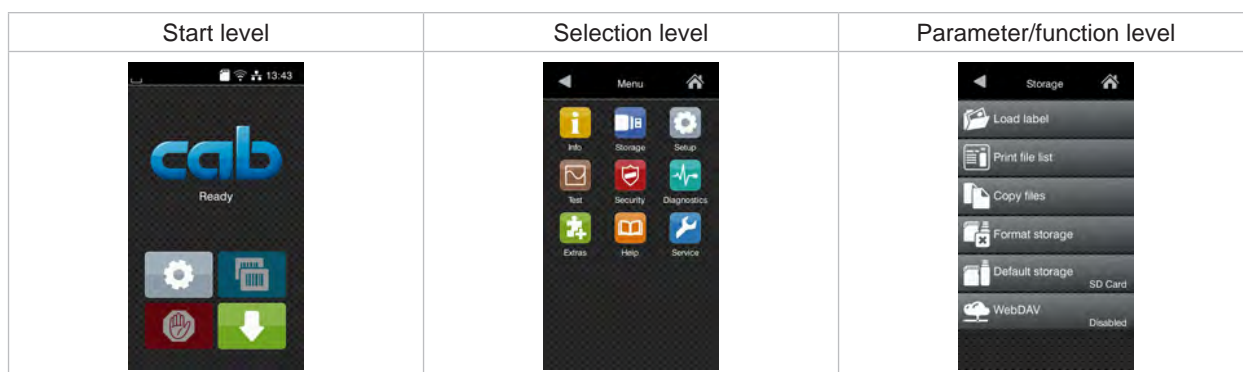





Figure 5 Menu levels

- ▶ 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.

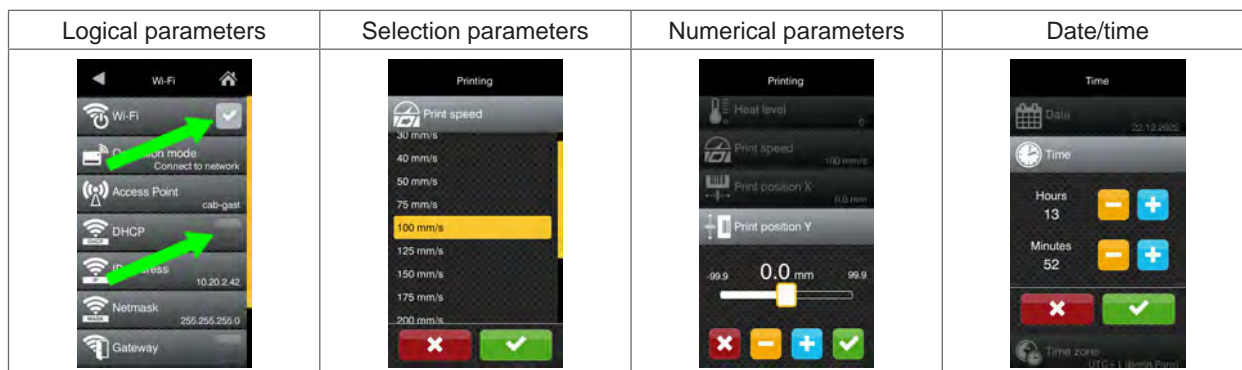


Figure 6 Samples for parameter setting

Button	Function
	Scroll bar for rough value setting
	Decreasing the value step-by-step
	Increasing the value step-by-step
	Return without saving the setting
	Return with saving the setting
	Parameter is disabled, touching enables the parameter
	Parameter is enabled, touching disables the parameter

Table 3 Buttons for parameter setting

In the header of the start screen several information are displayed as widgets depending on the configuration:



Figure 7 Widgets in the header









abc	
	abc program active ▷ Programming Manual
Bluetooth	
	Bluetooth adapter installed
	Bluetooth connection active ▷ 2.6 on page 10
Data transfer	
	Displays the current data transfer in the form of a falling drop.
	USB connection active ▷ 2.2 on page 7
	Ethernet connection active ▷ 2.3 on page 8
	Error in the Ethernet connection
	WiFi connection active ▷ 2.4.1 on page 8 The WiFi strength is displayed by the number of white arcs.
	WiFi stick is configured as a hotspot ▷ 2.4.2 on page 9
	The <i>Record data stream</i> function is active ▷ 8.5 on page 40 All received data are stored in a .lbl file.
External Media	
	SD card installed ▷ 14.2 on page 59
	SD card is accessed
	USB memory installed ▷ ▷ 14.2 on page 59
	WebDAV connection active ▷ 14.5 on page 60
	Date transfer via WebDAV connection
	At least one data interface is ready to receive ZPL data
	Receiving ZPL data via an interface ▷ 6.14 on page 30
Status	
	Maximum heat output reached, further increase of the heating level ineffective
	Warning paper end ▷ 6.2 on page 20 The remaining diameter of the paper supply roll undershoots the set value.
	Warning ribbon end ▷ 6.3 on page 22 The remaining diameter of the ribbon supply roll undershoots the set value.
	Clock time

Table 4 Widgets in the start screen

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

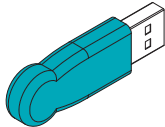


Figure 8 Service key



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 host 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:

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

Table 5 *Info* display

In the  Security menu the access rights for several printer function can be set.

- Start menu.
- Select Security.
















Parameter	Meaning	Default
 PIN protection	Activation of a four-digit PIN to protect certain parameters and functions accessible by the control panel. <i>Setup:</i> Protection of the submenu <i>Setup</i> <i>Menu:</i> Protection of the whole menu	Off
 Password ftpprint	* Access only when <i>Interfaces > Network services > FTP = "On"</i> Password for FTP printing ► Login as ftpprint	print
 Password ftpcard	* Access only when <i>Interfaces > Network services > FTP = "On"</i> Password for FTP access to storage devices (USB stick, SD card, IFFS) ► Login as ftpcard	card
 Password ftpadmin	* Access only when <i>Interfaces > Network services > FTP = "On"</i> Password for FTP firmware update ► Login as ftpadmin	admin
 Password website	* Access only when <i>Interfaces > Network services > Website = "On"</i> Password for Parameter setting via web interface ► Login as admin	admin
 Security web service	* Access only when <i>Interfaces > Network services > Web service = "On"</i> Authentication type for the SOAP protocol	Digest
 Password web service	* Access only when <i>Interfaces > Network services > Web service = "On"</i> Password for the SOAP protocol	soap
 Password VNC	* Access only when <i>Interfaces > Network services > VNC server = "On"</i> Password for the VNC server	vnc
 Password OPC UA	Password for networking via OPC UA	opcpass
 Anonymous OPC UA	Access authorization level via OPC UA without password	Read permission
 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. The certificate must be stored before in the folder "misc" of an external memory device to be installed on the printer.	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 host ports	None

Table 6 Parameters of the Security menu

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



Printing

- Start menu.
- Select *Setup > Printing*.

Parameter	Meaning	Default
 <i>Heat level</i>	<p>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.</p> <p>► To adapt the printing intensity when using different media, print speeds or printing contents, you should change the heat level in the software.</p> <p>The settings of configuration and software are added together.</p> <p>The <i>Heat level</i> setting also affects the test printouts.</p>	0
<i>Heat level upper head</i>	<p>* Only at XC Q and XD Q!</p> <p>Heating value for the upper printhead</p>	0
<i>Heat level lower head</i>	<p>* Only at XC Q and XD Q!</p> <p>Heating value for the lower printhead</p>	0
 <i>Print speed</i>	<p>Basic print speed setting.</p> <p>The print speed can be re-specified for each print job via software. The basic setting is not changed by this.</p> <p>The print speed setting also affects the test printouts.</p>	EOS2/EOS5 and 600dpi-printers: 50 mm/s others: 100 mm/s
 <i>Print position X</i>	<p>Shifting of the entire print image perpendicular to the direction of paper flow.</p> <p>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.</p> <p>The setting can also be adjusted by the software.</p> <p>The settings of configuration and software are added together.</p> <p>Affects both printheads at XC Q and XD Q.</p>	0.0 mm
 <i>Print position Y</i>	<p>Shifting of the entire print image in the direction of paper flow. With positive values, printing begins later in the direction of paper flow.</p> <p>Shifting of the print image in the direction of paper flow also influences the peel and cut positions.</p> <p>► Correct the <i>Peel position</i> and <i>Cut position</i> parameters by the same value in the opposite direction.</p> <p>The setting can also be adjusted by the software.</p> <p>The settings of configuration and software are added together.</p> <p>Affects both printheads at XC Q and XD Q.</p>	0.0 mm
 <i>Offset X upper-lower</i>	<p>* Only at XC Q and XD Q!</p> <p>Shifting the print image of the upper printhead perpendicular to the direction of paper flow.</p> <p>The setting can also be adjusted by the software.</p> <p>The settings of configuration and software are added together.</p>	0.0 mm

Parameter	Meaning	Default
 <i>Offset Y upper-lower</i>	<p>* Only at XC Q and XD Q!</p> <p>Shifting the print image of the upper printhead in the direction of paper flow. With positive values, printing begins later in the direction of paper flow.</p> <p>The setting can also be adjusted by the software. The settings of configuration and software are added together.</p>	0.0 mm
 <i>Double print optim.</i>	<p>* Only at XC Q and XD Q!</p> <p>Minimization of material loss between the print job.</p> <p>With the parameter activated a print job will not be carried out immediately till the end. The printer pauses the material feed in a position where the following job can be printed without blank labels between the jobs and waits for the data for the next job.</p> <p>After receipt of the new data the current job will be completed automatically and the new job will be started without blank labels.</p> <p>If no more data are expected, the current job can be completed with <i>Finalize print job</i>.</p>	Off
 <i>Disable lower head</i>	<p>* Only at XC Q and XD Q!</p> <p>Switching off the lower printhead.</p> <p>With the parameter activated the printer can be operated like a one-side printer.</p>	Off
 <i>Backfeed</i>	<p>* Not at XC Q and XD Q!</p> <p>Method for backfeeding the label medium.</p> <p>Backfeeding is necessary in the cutting and peel-off modes since a label is pushed out past the front edge of the next label above the print line when peeling off/cutting.</p> <p><i>always:</i> Backfeeding occurs independently of label contents.</p> <p><i>smart:</i> 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.</p>	<p>SQUIX, EOS, MACH 4S <i>smart</i></p> <p>HERMES Q PX Q <i>always</i></p>
 <i>Backfeed position</i>	<p>* Not at XC Q and XD Q!</p> <p>Offset of the backfeed movement</p>	1.0 mm
 <i>Print on demand</i>	<p>Tear-off mode : Behavior during print job</p> <p><i>On:</i> After touching  , one label at a time is printed and brought into the tear-off position.</p> <p><i>Off:</i> All labels are printed without interruption.</p> <p>Peel-off mode : Behavior after removing a label from the peel position</p> <p><i>On:</i> The next label will be printed and peeled-off after touching  </p> <p><i>Off:</i> The next label will be printed and peeled-off immediately</p> <p>Cut mode : Behavior between the cuts</p> <p><i>On:</i> After cutting the next label will be printed and cut after touching  </p> <p><i>Off:</i> All labels are printed and cut without interruption.</p>	Off
 <i>Reprint</i>	<p>Printing of another label with the information of the previous print job by touching  .</p> <p>This function can be executed until the print buffer is cleared with  .</p> <p><i>Re-render:</i> Adaption of counter values, variable data can be newly put in.</p> <p><i>Duplicate:</i> New label is identical with the last label of the print job.</p>	Re-render
 <i>Single label buffer</i>	<p>The next label will be processed only when the current one has finished printing.</p>	Off



Parameter	Meaning	Default
 <i>Length scale</i>	Eliminate deviations of the print length from the length set in the programming	0,0%
 <i>Slippage correction</i>	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.	Off

Table 7 Parameters of the *Setup > Printing* menu

6.2



Labels

- Start menu.
- Select *Setup > Labels*.









Parameter	Meaning	Default
 <i>Label sensor</i>	Method for detecting the starting end of the label. <i>Top-Reflect</i> : Detection using reflex marks on the top of the medium. * Not at MACHS 4S and PX Q! <i>Gap Sensor</i> : Detection using changes in the transparency between the label and label gap. <i>Bottom-Reflect</i> : Detection using reflex marks on the bottom of the medium. <i>Continuous media</i> : Checking the existence of media only. <i>Extern pos. edge</i> : Detection using an external sensor with rising edge at the front side of the label * At SQUIX, HERMES Q and PX Q only! <i>Extern neg. edge</i> : Detection using an external sensor with falling edge at the front side of the label * At SQUIX, HERMES Q and PX Q only!	Gap sensor
 <i>Calibrate label sensor</i>	To adapt the printer electronics to the label sensor and * MACH 4S : the used liner and ribbon material. * others : the used liner material.	
 <i>Extrapolate labels</i>	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. Selection: <i>Every label</i> (* AXON 1), <i>First label</i> , <i>Off</i>	AXON 1: <i>Every label</i> others: <i>Off</i>
 <i>Ignore paper end</i>	Suppression of wrong <i>Out of paper</i> error messages when using labels with transparent liner.	Off
 <i>Sensor unwinder</i>	* Only at HERMES Q! <i>On</i> : Sensor for monitoring the label supply roll is activated. <i>Off</i> : Sensor for monitoring the label supply roll is not activated.	On
 <i>Warn level labels</i>	* Only at HERMES Q! Threshold diameter (80–240 mm) of the label supply roll, if the value is undershot the "labels low" message will be activated. Among other things, the widget  then appears in the header.	Off
 <i>Pause on warning</i>	The print job will be interrupted when the "labels low" message appears	Off

Table 8 Parameters of the *Setup > Labels* menu



Calibrate label sensor

SQUIX / EOS / HERMES Q / PX Q / XC Q / XD Q

- ▶ Start menu.
- ▶ Select *Setup > Labels > 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

- ▶ Start menu.
- ▶ Select *Setup > Labels > 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.

6.3



Ribbon

- Start menu.
- Select *Setup > Ribbon*.











Parameter	Meaning	Default
 <i>Transfer print</i>	<p>On: Sensor for monitoring the transfer ribbon is activated.</p> <p>Off: Sensor for monitoring the transfer ribbon is not activated.</p> <p>The setting can be overwritten for each print job via software. The basic setting is not changed by this.</p>	<i>On</i>
 <i>Warn level ribbon</i>	<p>Threshold diameter (32–74 mm) of the ribbon supply roll, if the value is undershot the "ribbon low" message will be activated</p> <p>Among other things, the widget  then appears in the header.</p>	<i>Off</i>
 <i>Pause on warning</i>	The print job will be interrupted when the "ribbon low" message appears	<i>Off</i>
 <i>Monitor ink side</i>	<p>Setting of the ribbon unwinding direction</p> <p>The print job will be interrupted when the wrong ribbon winding direction has been detected. The error message "Ribbon ink side" appears.</p>	<i>Off</i>
<i>Monitor upper ink side</i>	<p>* Only at XC Q and XD Q!</p> <p>Setting of the ribbon unwinding direction for the upper print unit</p>	<i>Off</i>
<i>Monitor lower ink side</i>	<p>* Only at XC Q and XD Q!</p> <p>Setting of the ribbon unwinding direction for the lower print unit</p>	<i>Off</i>
 <i>Ribbon tension</i>	<p>* Only at EOS!</p> <p>Adaptation of the winding torque at the ribbon rewinder to different ribbons.</p>	<i>0</i>
 <i>Ribbon saver</i>	<p>* Only at HERMES Q, PX Q, XC Q and XD Q!</p> <p><i>JScript:</i> Activation of the ribbon saver via software setting</p> <p>► Programming Manual</p> <p>On: Ribbon saver is always active.</p>	<i>JScript</i>
 <i>Ribbon saver pre-down</i>	<p>* Only at HERMES Q, PX Q, XC Q and XD Q!</p> <p>Premature putting-down of the printhead at the end of the saving zone</p>	<i>0.0 mm</i>
 <i>Ribbon saver post-up</i>	<p>* Only at HERMES Q, PX Q, XC Q and XD Q!</p> <p>Delayed lifting of the printhead at the start of the saving zone</p>	<i>0.0 mm</i>
 <i>Backfeed head mode</i>	<p>* Only at PX Q!</p> <p>Position of the printhead during label backfeed</p> <p><i>Head lift-off:</i> The printhead will be lifted from the print roller</p> <p><i>Head down:</i> The printhead remains at the print roller</p>	<i>Head down</i>

Table 9 Parameters of the *Setup > Ribbon* menu

6.4



Tearing-off

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



Parameter	Meaning	Default
 <i>Tear-off mode</i>	<p>Positioning the label medium for tearing off at the tear-off plate.</p> <p>On: Additional advancement of the label medium which positions the label gap after the last printed label at the dispense plate.</p> <p>Off: Label advance stops once the last label has fully passed the print line.</p>	<p>HERMES Q: <i>Off</i></p> <p>others: <i>On</i></p>
 <i>Tear-off position</i>	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.	<i>0.0 mm</i>

Table 10 Parameters of the *Setup > Tearing-off* menu

6.5 Cutting

- * Only with cutter installed!
- * Not at HERMES Q and PX Q!
- ▶ Start menu.
- ▶ Select *Setup > Cutting*.





Parameter	Meaning	Default
 <i>Device info</i>	Information to the device: Software version, counts of cuts and errors	
 <i>Calibrate device</i>	Calibration of the lower blade end position.	
 <i>Cut position</i>	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.	0,0 mm
 <i>Perforation depth</i>	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 11 Parameters of the *Setup > Cutting* menu**Note!**

The content of the menu is depending on the cutter type.

6.6 Peeling-off

- * Only with peel-off module or I/O interface installed!
- * Not at EOS, XC Q and XD Q!
- ▶ Start menu.
- ▶ Select *Setup > Peeling-off*.



Parameter	Meaning	Default
 <i>Peel-off position</i>	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
 <i>Backfeed delay</i>	Delay time between removing the label from the peel position and the backfeed of the label.	250 ms

Table 12 Parameters of the *Setup > Peeling-off* menu

6.7 Labelling

- * Only with applicator installed!
- * Not at MACH 4S, EOS, XC Q and XD Q!
- ▶ Start menu.
- ▶ Select *Setup > Labelling*.

**Note!**

The content of the menu is depending on the applicator type and described in the manual of the applicator.

6.8  RFID

* Only with RFID module installed!

- Start menu.
- Select *Setup > RFID*.

















Parameter	Meaning	Default
 <i>Device info</i>	Hardware and software revisions of the RFID module Total and user counter for the read and write cycles and RFID error messages	
 <i>Teach-in tag</i>	Determining the optima for read/write position, read power and write power for RFID access of the inserted tags.	
 <i>Read tag data</i>	Reading the RFID tag data. Hexadecimal representation Selection between <i>EPC</i> , <i>TID</i> and <i>USER</i> .	
 <i>Reset user counters</i>	Resetting the user counters in the <i>Device info</i>	
 <i>Read/Write position</i>	Result of the <i>Teach-in tag</i> function. Manually adaptable (0...60.0 mm).	-
 <i>RF read power</i>	Result of the <i>Teach-in tag</i> function. Manually adaptable (-2...17 dBm).	-
 <i>RF write power</i>	Result of the <i>Teach-in tag</i> function. Manually adaptable (-2...17 dBm).	-
 <i>Acceptable bad tags</i>	Number of the accepted RFID errors before job interruption with error message	<i>None</i>
 <i>Void invalid labels</i>	Marking the bad tag label as invalid	<i>Off</i>
 <i>Antenna</i>	Antenna selection <i>In transport module:</i> Antenna in transport module, RFID tags: Standard, High Sensitivity <i>On printhead:</i> Antenna on printhead, RFID tags: On-Metal	<i>In transport module</i>
 <i>Chunk size</i>	The information to be written will be split in several parts. Range: 4-16 bytes in steps of 2 bytes	<i>16 byte</i>
 <i>Standard compliance</i>	<i>ETSI (Europe):</i> 865 – 867 MHz <i>FCC (North America):</i> 902 - 928 MHz <i>Automatic:</i> corresponding to the setting <i>Country</i> <i>FCC for USA, Mexico, Latin America, China, Taiwan, Thailand</i> <i>ETSI for other countries</i>	<i>ETSI (Europe)</i>
 <i>Teach-in increment</i>	 Access only with service key inserted! Feed increment for the <i>Teach-in tag</i> function	<i>0.5 mm</i>
 <i>TID length</i>	Length of the TID to be read <i>Automatic:</i> The device identifies the length of the TID automatically. <i>2-12 bytes:</i> The length of the TID will be fixed.	<i>Automatic</i>
 <i>Access password</i>	Password for teaching-in write-protected tags	<i>Unused</i>

Table 13 Parameters of the *Setup > RFID* menu *Teach-in tag*

- Start menu.
- Select *Setup > RFID > Teach-in tag*.
The label material will be fed in small steps.
At the end the message display shows *Teaching-in successful* and the determined values.
- A printout of the teach-in diagram can be started by selecting *Print*.

6.9 Interfaces

- Start menu.
- Select *Setup > Interfaces*.

Ethernet










Parameter	Meaning	Default
 <i>Hostname</i>	Unique identification of the printer in a network in a human readable format Example: cab-05cbbf	<i>generated of OEM name and the last six digits of the MAC address</i>
 <i>IEEE 802.1X</i>	Selection of the authentication mechanism to devices wishing to attach to a LAN. Supported mechanisms: <ul style="list-style-type: none"> • <i>Protected EAP (PEAP)</i>: MSCHAP v2, GTC, MD5 • <i>Tunneled TLS (TTLS)</i>: PAP, CHAP, MSCHAP, MSCHAPv2 • <i>TLS</i> 	<i>Off</i>
 <i>DHCP</i>	Method of issuing IP address <i>On</i> : Dynamic issuing of IP address by the DHCP server <i>Off</i> : Direct issuing of the IP address by the operator	<i>On</i>
 <i>> IP address</i>	IP address of the label printer. Only valid with <i>DHCP = Off</i> .	-
 <i>> Netmask</i>	Subnet mask (classification and address range) of the local network. Only valid with <i>DHCP = Off</i> .	-
 <i>> Gateway</i>	Connection address between the local network and other networks.	<i>Off</i>
 <i>>> Gateway address</i>	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.	-
 <i>> DNS server</i>	Setting the IP address of a DNS server manually The DNS server resolves the internet addresses to IP addresses e.g. to select network services such as NTP per domain name.	-
 <i>> Search domains</i>	Necessary to resolve the printer via complete domain name. Example: Hostname <i>cab-05cbbf</i> Search domain <i>cab.de</i> Printer accessible via <i>cab-05cbbf.cab.de</i>	-

Table 14 Parameters of the *Setup > Interfaces > Ethernet* menu



Wi-Fi

* Access only with Wi-Fi stick installed.

Parameter	Meaning	Default
Wi-Fi	Activation of the Wi-Fi interface	Off
> Operation mode	Selection of the operation mode Connect to network: Connection of the printing to an existing wireless network Hotspot: Installation of a printer-own wireless network to connect mobile devices to the printer	Connect to network
Operation mode <i>Connect to network</i>		
>> Access-Point	Selection of the Access Point to setting up the Wi-Fi connection.	-
>> DHCP	▷ Ethernet > DHCP	On
>>> IP adress	▷ Ethernet > IP adress	-
>>> Netmask	▷ Ethernet > Netmask	-
>>> Gateway	▷ Ethernet > Gateway	Off
>>>> Gateway address	▷ Ethernet > Gateway address	-
>>> DNS server	▷ Ethernet > DNS server	-
>>> Search domains	▷ Ethernet > Search domains	-
Operation mode <i>Hotspot</i>		
>> 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 adress of the hotspot, the SSID and the password Display of a QR code, which can be scanned with a mobile device to connect the device to the printer-own wireless network	-

Table 15 Parameters of the Setup > Interfaces > Wi-Fi menu



Network Services

Parameter	Meaning	Default
<i>FTP</i>	Activation of the File Transfer Protocol	<i>On</i>
<i>> FTP Port</i>	Setting the FTP address	<i>21</i>
<i>LPD</i>	Activation of the network printing service LPD	<i>On</i>
<i>RawIP</i>	Activation of the network printing service RawIP and selection of the port address	<i>On</i>
<i>> RawIP Port</i>	Selection of the port address for RawIP	<i>9100</i>
<i>> RawIP Timeout</i>	Setting the timeout for the interruption of unused connections	<i>Default</i>
<i>Website</i>	Activation of the Hypertext Transfer Protocol for the access to the internal printer website	<i>On</i>
<i>Web service</i>	Activation of the Simple Object Access Protocol	<i>Off</i>
<i>SNMP</i>	Data exchange between printer and management station via Simple Network Management Protocol	<i>Off</i>
<i>> SNMP community</i>	Keyword to assign the SNMP rights	<i>public</i>
<i>VNC server</i>	Activation of the VNC server for remote access to the control panel	<i>Off</i>
<i>Zeroconf</i>	Activation of the auto-configuring Zeroconf method for adhoc networks	<i>On</i>
<i>OPC UA</i>	Activation of the protocol OPC UA for multi-vendor machine to machine communication	<i>Off</i>

Table 16 Parameters of the *Setup > Interfaces > Network services* menu

RS-232

Parameter	Meaning	Default
<i>Baud rate</i>	Speed (in Baud) of data transfer	<i>115.200</i>
<i>Handshake</i>	Data transfer protocol	<i>RTS/CTS</i>

Table 17 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!**

**Note!**

The content of the menu is depending on the installed interface and described in the documentation of the interface.

6.10 Errors

- Start menu.
- Select *Setup > Errors*.





Parameter	Meaning	Default
 <i>Error-Reprint</i>	<i>On</i> : With a correctable error and corresponding troubleshooting, the label being printed when the error occurs is repeated. If an error occurs in the mode <i>Backfeed=smart</i> after the first label part has been printed, the label cannot be repeated. <i>Off</i> : Print job is continued with the next label.	<i>On</i>
 <i>Syntax error</i>	Printer switches to error mode after receipt of an incorrect command.	<i>On</i>
 <i>Barcode error</i>	<i>On</i> : With faulty barcode contents or size specifications, printing is interrupted. <i>Off</i> : 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.	<i>On</i>
 <i>Network error</i>	Printer switches to error mode when problems with the network connection occur.	<i>Off</i>

Table 18 Parameters of the *Setup > Errors* menu

6.11 Region

- Start menu.
- Select *Setup > Region*.





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

Table 19 Parameters of the *Setup > Region* menu

6.12 Time

- Start menu.
- Select *Setup > Time*.

Parameter	Meaning	Default
 <i>Date</i>	Setting of the system date in the format DD.MM.YYYY. The print output of the date occurs in the format set via the <i>Country</i> parameter. The date can also be changed via software. The change is not saved permanently, however.	-






Parameter	Meaning	Default
 <i>Time</i>	Setting the system time in the HH:MM:SS format. When changing the time, ensure that the <i>Timezone</i> , <i>Daylight saving</i> and <i>Date</i> parameters are set correctly. The time can also be synchronized automatically via the internet using the Ethernet interface. The print output of the time occurs in the format set via the <i>Country</i> parameter. The time can also be changed via software. The change is not saved permanently, however.	-
 <i>Time zone</i>	Adaptation of the time display of the printer to the time zone in relation to UTC (Universal Time Coordinated).	UTC+1
 <i>Daylight saving</i>	Selection of the daylight saving regulation applicable for the region. The time is then changed automatically.	EU
 <i>Time synchronisation</i>	Activation of a service to synchronize date and time of the printer.	NTP
 <i>> Time server</i>	* for <i>Time synchronisation</i> ≠ Off Address of the time server	

Table 20 Parameters of the *Setup > Time* menu

6.13 Display

- Start menu.
- Select *Setup > Display*.










Parameter	Meaning	Default
 <i>Orientation</i>	Adaptation of the display contents to the display orientation.	Portrait: 0° Landscape: 270°
 <i>Brightness</i>	Brightness of the LCD display.	8
 <i>Time powersave</i>	Time between the last operation and activation of energy-saving mode.	5 min
 <i>Peripheral button</i>	Activation/Deactivation of the start button	On
 <i>Reprint button</i>	Activation/Deactivation of the reprint button	On
 <i>Pause button</i>	Activation/Deactivation of the pause button	On
 <i>Cancel button</i>	Activation/Deactivation of the cancel button	On
 <i>Feed button</i>	Activation/Deactivation of the feed button	On
 <i>Extended view</i>	Activation allows a transient access to the menu item <i>Service > Printer model</i> without service key e.g. after replacement of the CPU. After the activation of the <i>Extended view</i> the menu item <i>Service > Printer model</i> can be reached by navigation inside the menu. When leaving the menu the parameter will be deactivated automatically.	Off

Table 21 Parameters of the *Setup > Display* menu

6.14 Interpreter

- ▶ Start menu.
- ▶ Select *Setup > Interpreter*.








Parameter	Meaning	Default
 <i>Character set</i>	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.	<i>UTF-8</i>
 <i>USB</i>	Choosing between the programming languages JScript and ZPL for data transfer via USB interface	<i>JScript</i>
 <i>RS-232</i>	Choosing between the programming languages JScript and ZPL for data transfer via RS-232 interface	<i>JScript</i>
 <i>FTP</i>	Choosing between the programming languages JScript and ZPL for data transfer via FTP	<i>JScript</i>
 <i>LPD</i>	Choosing between the programming languages JScript and ZPL for printing with LPD	<i>JScript</i>
 <i>RawIP</i>	Choosing between the programming languages JScript and ZPL for printing with RawIP	<i>JScript</i>
 <i>Bluetooth</i>	Choosing between the programming languages JScript and ZPL for data transfer via Bluetooth * only with Bluetooth adapter installed	<i>JScript</i>

Table 22 Parameters of the *Setup > Interpreter* menu

6.15 ZPL

- ▶ Start menu.
- ▶ Select *Setup > ZPL*.






Parameter	Meaning	Default
 <i>Print mode</i>	Setting the operation mode	<i>Tearing-off</i>
 <i>Printing width</i>	Setting the print width for ZPL programming	<i>maximum print width</i>
 <i>Label length</i>	Setting the label length for ZPL programming	<i>150.0 mm</i>
 <i>Left position</i>	Shifting of the entire print image perpendicular to the direction of paper flow.	<i>0.0 mm</i>

Table 23 Parameters of the *Setup > ZPL* menu

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(s)
- 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 .

Status print					
Wed Aug 14 10:48:21 2019 cab SQUIX 4/300MP Firmware V5.27 (Jul 25, 2019) - #164162036456					
Printing Heat level 0 Print speed 75 mm/s Print position X 0.0 mm Print position Y 0.0 mm Backfeed smart Backfeed position 1.0 mm Print on demand Off Reprint Re-render Single label buffer Off Length scale 0.0 % Slippage correction Off		Wi-Fi On Access Point cabgast DHCP Off IP address 172.20.200.93 Netmask 255.255.255.0 Gateway Off DNS server 0.0.0.0 Network services FTP On LPD On RawIP On RawIP port 9100 RawIP timeout Default Website On Web service On SNMP On SNMP community public VNC server On Zeroconf On OPC UA Off RS-232 115200 Baud rate RTS/CTS Handshake I/O START mode Edge REPRINT mode Edge JOBDEL mode Cancel print job Start delay 0 ms Lock time 0 ms Legacy I/O Off		Interpreter Character set UTF-8 USB JScript RS-232 JScript FTP JScript LPD JScript RawIP JScript Bluetooth JScript ZPL Print width 100.0 mm Label length 150.0 mm	
Labels Label sensor Gap Extrapolate labels Off Ignore paper end Off		Errors Error-Reprint On Syntax error On Barcode error On Network error On		Storage Default storage SD Card	
Ribbon Transfer print On Warm level ribbon 32 mm Pause on warning Off Monitor ink side Off		Region Language English Country Germany Keyboard Automatic		Security PIN protection On Security web service Digest TLS/SSL Off Block ext. storage Off Block USB ports Off	
Tearing-off Tear-off mode On Tear-off position 0.0 mm		Time Date 04.08.2017 Time 08:02:16 Time zone UTC+1 (Berlin,Paris) Daylight saving EU Time synchronization NTP Time server		Extras Cleaning interval 1000 m	
Cutting Cut position 0.0 mm Perforation level 0		Display Orientation 0° Brightness 8 Time powersave 5 min Peripheral button On Reprint button On Pause button On Cancel button On Feed button On		Service Printhead zero pos. X 0.0 mm Printhead zero pos. Y 0.0 mm	
Peeling-off Peel-off position 0.0 mm Backfeed delay 250 ms				Printer Info Operative time 346h 55min Total 104h 02min Service Number of labels 2457 Total 1060 Service Thermal transfer 68,084 m Total 20,154 m Service Thermal direct 32,086 m Total 0,080 m Service Temperature 27.4 °C Heat voltage 24.2 V Heat level 14,011 m < 0 86,092 m 0-7 0,000 m 8-14 0,000 m > 14 0,000 m Label sensor 13-27 / 26-54 Brightness	
Labelling Transfer mode Stamp on Cycle sequence Print-Apply Waiting position up Blow time 1000 ms Roll-on time 1000 ms Support delay on 0 ms Support delay off 0 ms Start delay 0 ms Lock time 0 ms Vacuum delay On Vacuum control On Label hand-over Passive Cleaning blow Off Peel-off position 0.0 mm					
Interfaces Ethernet Hostname cab-999163 DHCP Off IP address 192.168.9.13 Netmask 255.255.255.0 Gateway Off DNS server 0.0.0.0					

Figure 9 Status print
Parameters marked *italic* are only printed when the printer is equipped with the respective optional assembly

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



Font list			
Wed Aug 14 10:44:21 2019 cab SQUIX 4/300MP Firmware V5.27 (Jul 25, 2019) - #164162036456			
No.	Name	Type	Description
-1	_DEF1	Bitmap	Default Font 12x12 dots
-2	_DEF2	Bitmap	Default Font 16x16 dots
-3	_DEF3	Bitmap	Default Font 16x32 dots
-4	OCR_A_I	Bitmap	OCR-A Size I
-5	OCR_B	Bitmap	OCR-B
3	BX000003	TrueType	Swiss 721
5	BX000005	TrueType	Swiss 721 Bold
7	CGTRIUM	TrueType	CG Triumvirate Condensed Bold
596	BX000596	TrueType	Monospace 821
1000	GHEI21M	TrueType	AR Heiti Medium GB-Mono
1001	HANWANG	TrueType	HanWangHeiLight
1010	GARUDA	TrueType	Garuda

Figure 10 Font list

Column	Meaning
No.	ID number of the font required for programming (command T).
Name	Name with which the font is saved internally.
Type	Type of font generation. It provides information on the variability of the font and is important when programming (command T).
Description	Explanations of the font: size, font family. The printout occurs in the appropriate font.

Table 24 Parameters of the *Font list*

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

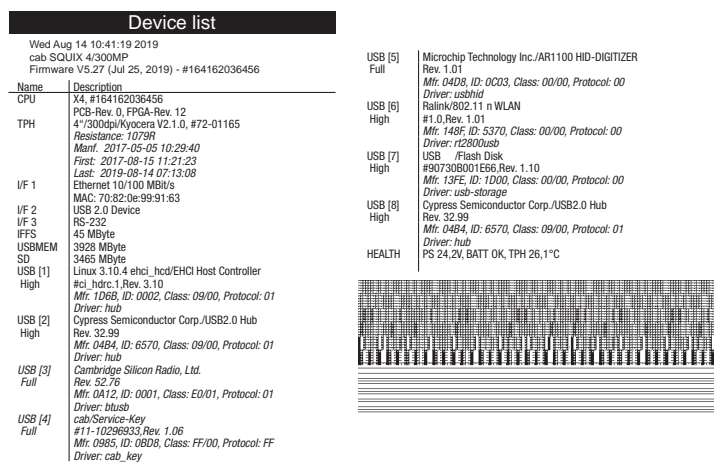


Figure 11 Device list
Parameters marked *italic* are only printed when the service key is inserted

Name	Information
CPU	Type and serial number of the PCB CPU Revision of PCB CPU and FPGA
TPH	Print width and resolution of the installed thermal printhead
IF [x]	Type of interfaces installed x : Number of interface
IFFS	Size of the Internal Flash File System
USBMEM	Size and type of an installed USB storage device
SD	Size and type of an installed SD card
USB [a] Speed	Type and revision of installed USB devices a : number of USB device Speed : data transfer speed (low, full, high) The following properties are only displayed when the service key is inserted: Mfr.: Manufacturer ID. This identifies the manufacturer of the USB device Class: Code for the USB device class Protocol: Code for the type of communication with the USB device Phase: Internal value for troubleshooting
HEALTH	Printhead voltage, charge state of the lithium battery on the PCB CPU, temperature of CPU and printhead
Line pattern	Lines differing in thickness at various distances. They are used to evaluate the print quality.

Table 25 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

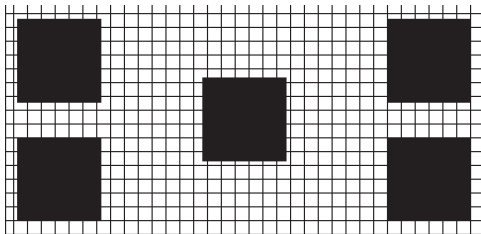


Figure 12 Test grid

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 .


Wi-Fi status			
Wed Aug 14 10:36:15 2019 cab SQUIX 4/300MP Firmware V5.27 (Jul 25, 2019) - #164162036456			
Channel	Name/BSS ID	Signal level	Security
1	default 00:24:b2:36:98:60	●●●●●	WPA2-PSK
1	cab-firma 00:24:b2:36:98:61	●●●●●	WPA2-PSK
1	cab-gast 00:24:b2:36:98:62	●●●●●	WPA2-PSK
11	default 00:24:b2:36:98:60	●○○○○	WPA2-PSK
11	cab-firma 00:24:b2:36:98:61	●○○○○	WPA2-PSK
11	cab-gast 00:24:b2:36:98:62	○○○○○	WPA2-PSK

Figure 13 Wi-Fi status

The parameters have the following meaning :

Column	Meaning
Channel	Channel; frequency range of the Access Point
Name/BSS ID	Name of the wireless LAN MAC address of the Access Points
Signal level	Scale of the Wi-Fi signal strength
Security	Type of data encryption

Table 26 Parameters of the *WiFi status*

The  *Diagnostics* menu contains several functions for troubleshooting

8.1 Printhead

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



Note!

At XC Q and XD Q the information for both printheads can be displayed separately by the functions *Upper printhead* and *Lower printhead*.

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

The following parameters are displayed:

Line	Meaning	Example
1	Serial number of the printhead	<i>Serial no.</i> 68-0252
2	Part number of the printhead	<i>Part no.</i> 5977444
3	Firmware revision of the printhead	<i>Firmware</i> 2.1.0
4	Temperature of the printhead	<i>Temperature</i> 26.2 °C
5	Resolution of the printhead	<i>Resolution</i> 12 DPMM (dots/millimeter)
6	Print width / Number of dots	<i>Width/no. of dots</i> 106mm/1248
7	Operative time/Number of printed labels with the current printhead	<i>Hours/no. of labels</i> 424h/32018
8	Previously printed paper lengths with thermal direct printing / thermal transfer printing	<i>Thermal/Transfer</i> 29.04m/286.42m
9	Previously printed paper length with heat level < 0	<i>Heat level <0</i> 44.31m
10	Previously printed paper length with heat level 0 - 7	<i>Heat level 0-7</i> 219.93m
11	Previously printed paper length with heat level 8 - 14	<i>Heat level 8-14</i> 50.41m
12	Previously printed paper length with heat level > 14	<i>Heat level >14</i> 0.81m
13	Resistance of the printhead	<i>Resistance</i> 1110Ω
14	Description of the printhead	<i>Description</i> 4"/300dpi/Kyocera

Table 27 *Printhead display*

8.2 Monitor Mode


Monitor 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 > Monitor Mode*.
- ▶ Send print jobs.
- ▶ Select  to cancel the printout or switch to the *Ready* mode.

Example:

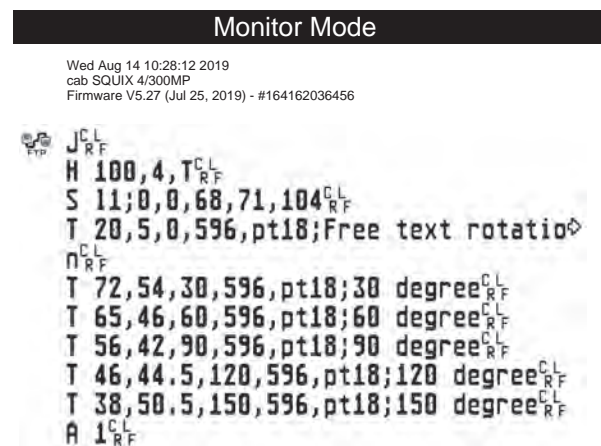
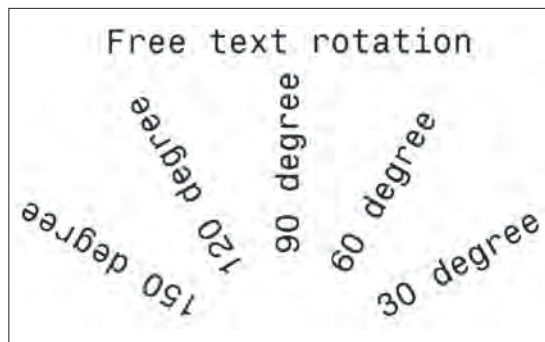


Figure 14 Example label printed normally (left) and in *Monitor mode* (right)

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

e.g. : L_F : Code 10 (0A) - line feed

C_R : Code 13 (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 ▷ page 20.
- ▶ 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 .

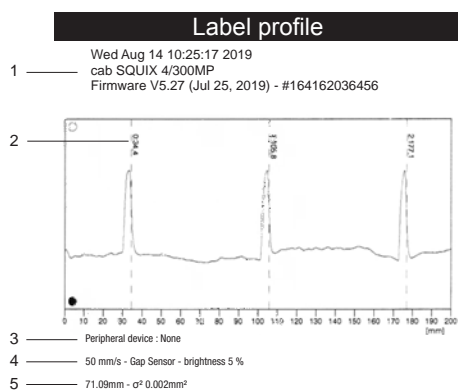


Figure 15 Label profile

No.	Information
1	Date and time of the printout Device type Version and creation date of the firmware Serial number of the PCB CPU Firmware version and serial number of the label sensor
2	Coordinate in the direction of paper flow at which the label start was detected
3	Type of peripheral device connected
4	Print speed, method of label detection (Gap sensor / Bottom-reflect sensor) Brightness of the sensor LED during the measurement
5	Average value and variation of label distances

Table 28 Information in *Label profile*

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	
Wed Aug 14 10:19:29 2019 cab SQUIX 4/300MP Firmware V5.27 (Jul 25, 2019) - #164162036456	
Date	Description
13.08.17 07:45	TPH (#59-0051) -> 300 dpi, 1248 dots
20.09.17 07:46	Firmware update -> V5.10 (0000)
04.10.17 07:38	Firmware update -> V5.11 (0000)
15.10.17 13:35	Printer model: cab SQUIX 4/300MP
19.12.17 14:01	Firmware update -> V5.13 (0000)
05.09.18 11:38	Clear service counters
05.09.18 11:38	Cleaning interval -> 41242 + 1000000
13.08.19 07:42	Firmware update -> V5.27 (0000)

Figure 16 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 header of the display the data recording is indicated by the widget .
- ▶ 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.

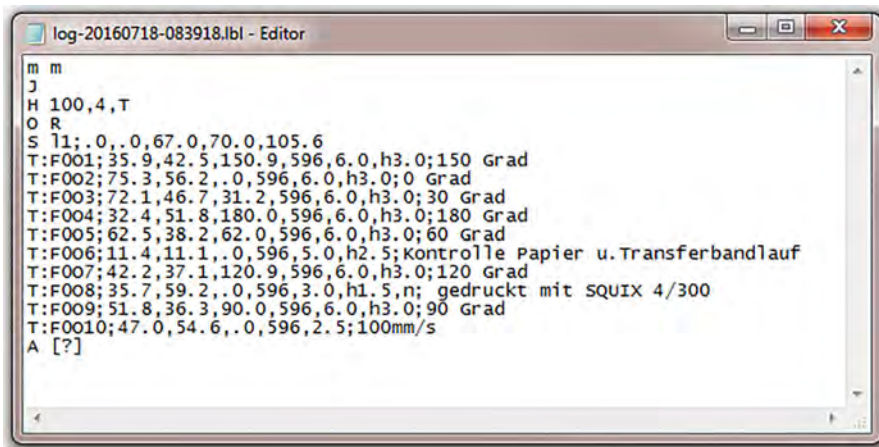



Figure 17 Data stream record

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.

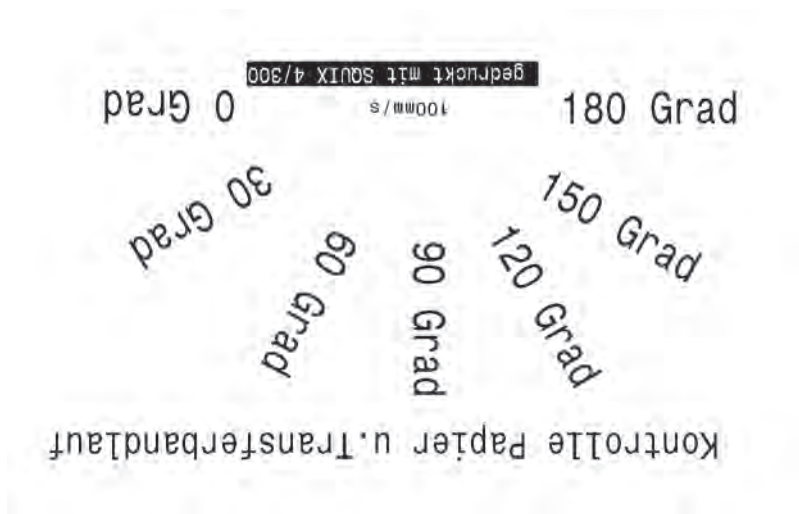


Figure 18 Saved print image

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.


- ▶ Insert SD card or USB memory module.
- ▶ Start menu.
- ▶ Select *Diagnostics* > *Save system log*.
- ▶ Select the external storage device.
- ▶ 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.
- ▶ Confirm the selection with . The display shows the several steps of saving.



Figure 19 System log saving

- ▶ Confirm the completion of saving with . The .zip file will be stored in the root of the storage device.

8.8



WPA logging

When *WPA logging* is activated the Ethernet and WiFi activities of the system will be stored in the file *wpalog*.

When the system files are stored with *Save system log* the file *wpalog* will be added to the .zip-file.

8.9  I/O Test

With the function *I/O Test* the functionality of the I/O interface can be checked.

**Attention!**

A matching I/O tester must be connected to the I/O interface to get a correct test result.

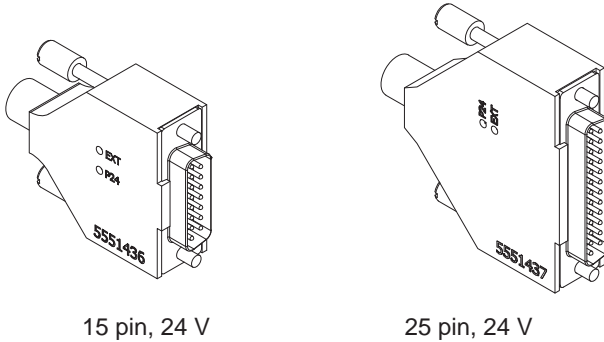


Figure 20 I/O tester

- ▶ Install the I/O tester.
- ▶ Start menu.
- ▶ Select *Diagnostics* > *I/O test*. The display shows the steps of the test.

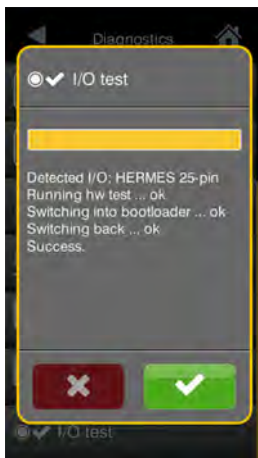



Figure 21 I/O test

- ▶ Confirm the test result with .


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 the 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 58.

9.2 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) ▷ "14.5.4" on page 62.

9.3 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.

9.4 Reset Settings

With the *Default settings* function all setup parameters excepting the passwords ▷ page 17 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.

9.5 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.

Function	User name	Password
Web interface access	admin	admin
FTP printing	ftpprint	print
FTP access to storage devices	ftpcard	card
FTP firmware update	ftpadmin	admin
Web service	soap	soap
OPC networking	opcuser	opcpass


Table 29 Default passwords

9.6 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 .

9.7

**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 links to video clips about important operations.

- ▶ Start menu.
- ▶ Select *Help*.
A list of clips will be shown.

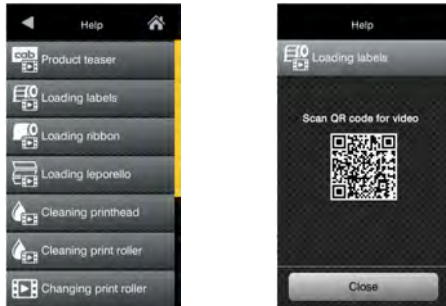


Figure 22 Help

- ▶ Select a clip.
The display shows a QR code which can be scanned by a mobile device.
If the mobile device is connected to the internet a video clip with the selected content will start.

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:

Data	Description
Operative time	Printer switch-on time
Number of labels	Number of labels printed
Transfer printing	Length of medium printed with transfer printing
Thermal printing	Length of medium printed with thermal direct printing

Table 30 Total and service counter data

- ▶ Insert service key into an USB host 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 Zero offset X upr-lwr



Access only with service key inserted!

* **Only at XC Q and XD Q!**

Basic setting of the parameter *Offset X upper-lower* ▷ page 18.

- ▶ Identify the displacement between the images of primary and secondary color perpendicular to the direction of paper flow.
- ▶ Select *Service > Zero offset X upr-lwr*.
- ▶ Correct the displacement.

11.5 Zero offset Y upr-lwr



Access only with service key inserted!

* **Only at XC Q and XD Q!**

Basic setting of the parameter *Offset Y upper-lower* ▷ page 19.

- ▶ Identify the displacement between the images of primary and secondary color in the direction of paper flow.
- ▶ Select *Service > Zero offset Y upr-lwr*.
- ▶ Correct the displacement.

11.6 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.



Note!

With firmware version 5.35 or higher the setting *Printer model* can be reached also without service key installed by the activation of the parameter *Extended view*. When leaving the menu the access will be deactivated automatically. ▷ "6.13" on page 29

11.7 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.

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 Edge, Mozilla Firefox) with JavaScript activated via the Ethernet interface or the optional Wi-Fi interface.

12.1 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 (▷ "Security Tab" page 53).

- ▶ 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 start screen.

The web interface contains the following tabs:

- Status: general status description ▷ page 51.
- Setup: configuration parameter settings ▷ page 52.
- Security: password settings ▷ page 53.
- Notifications: settings for sending messages via SNMP or Email ▷ page 54.
- Devices: list of the hardware and optional components ▷ page 55.
- Fonts: overview of the available fonts ▷ page 55.

12.2 Status

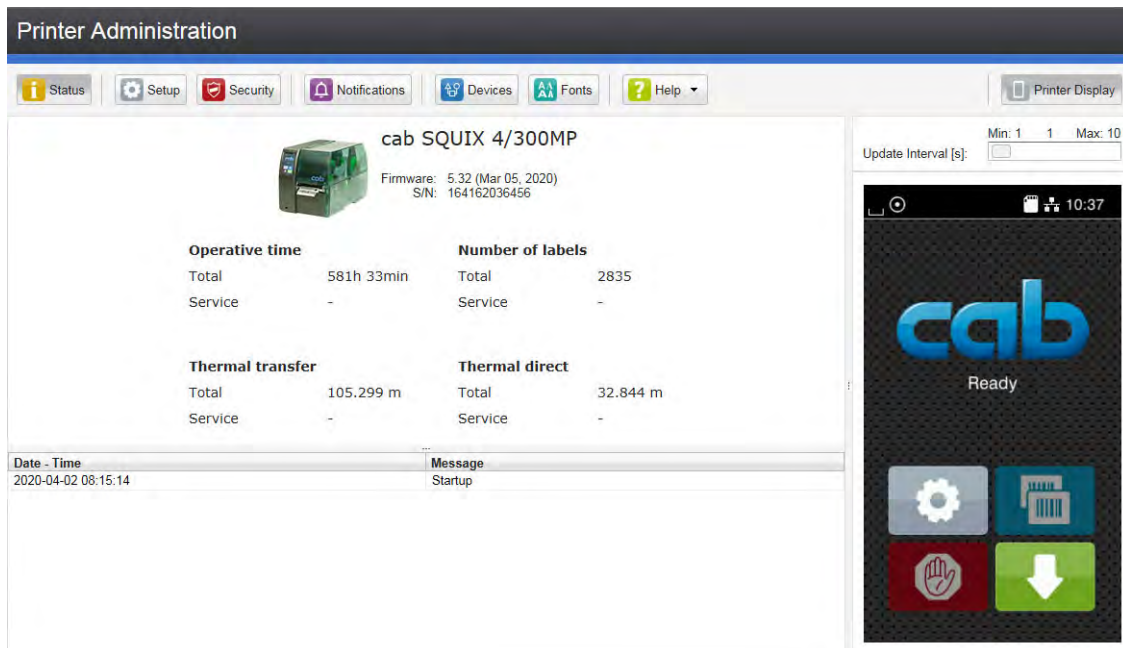


Figure 23 "Status" tab on the printer web interface

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.

**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 65) e.g. for entering variable input data.

12.3 Setup

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

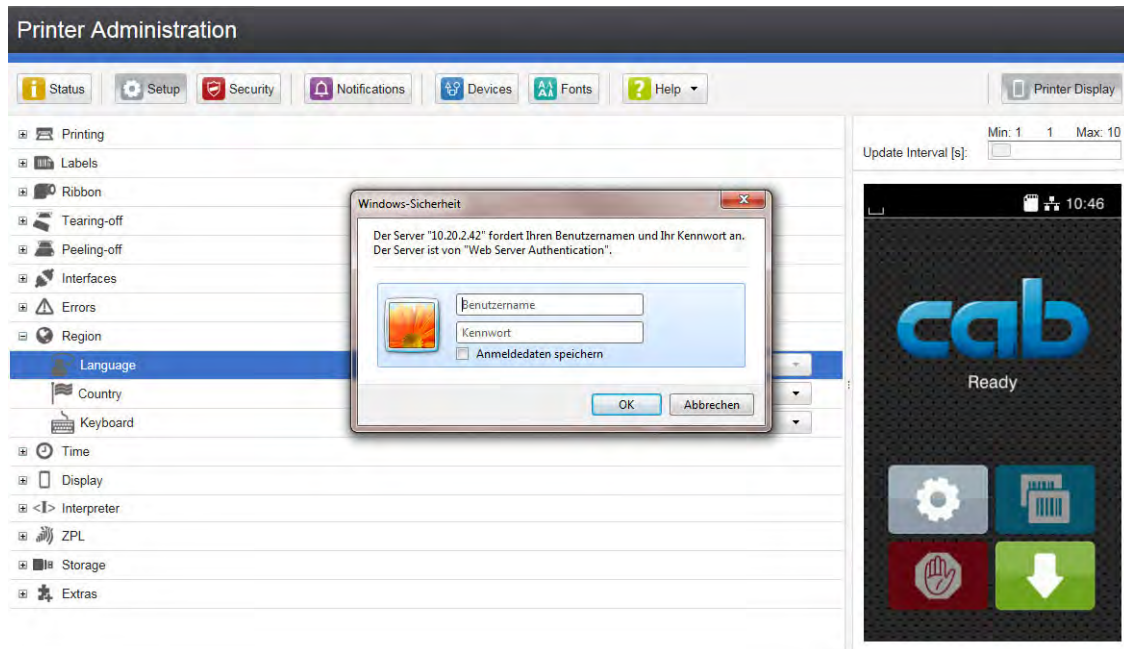


Figure 24 "Setup" tab on the printer web interface

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 17.
3. Enter user name and password and click **OK**.

12.4 Security

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 ▸ page 17.

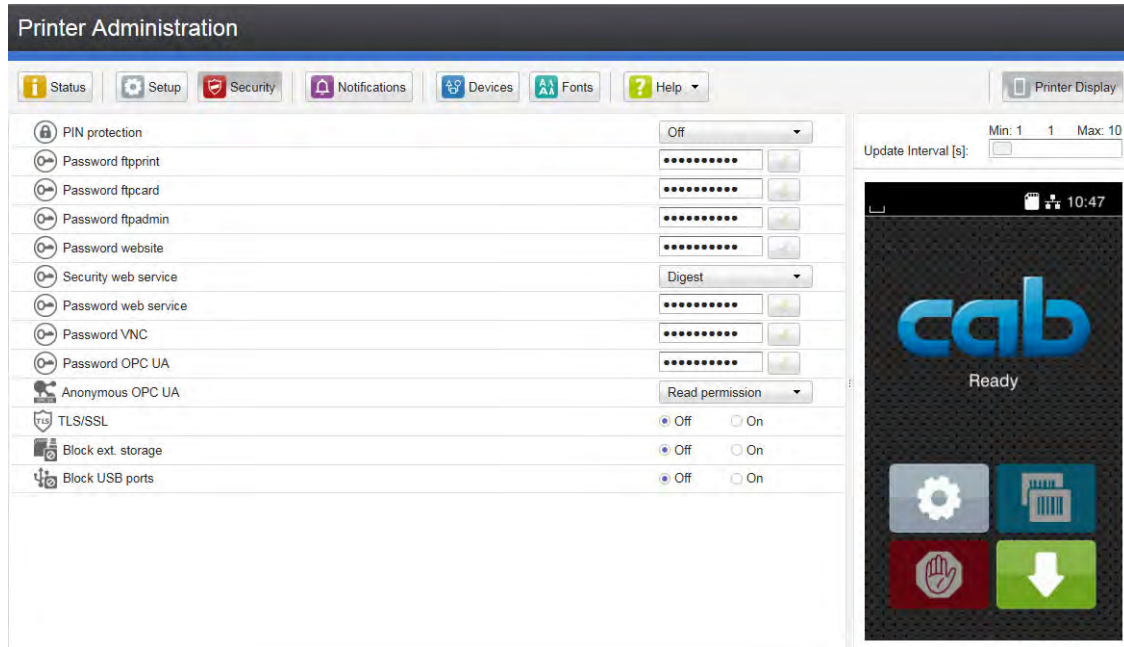


Figure 25 "Security" tab on the printer web interface

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 17.
3. Enter user name and password and click **OK**.

12.5 Notifications

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.

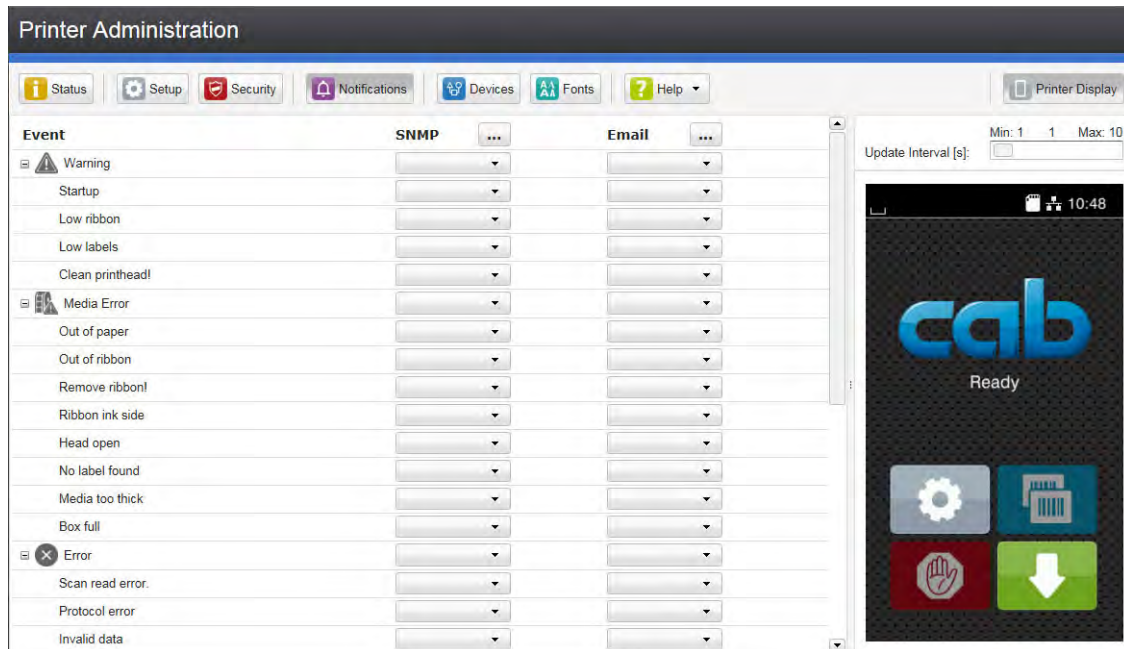



Figure 26 "Notifications" tab on the printer web interface

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.

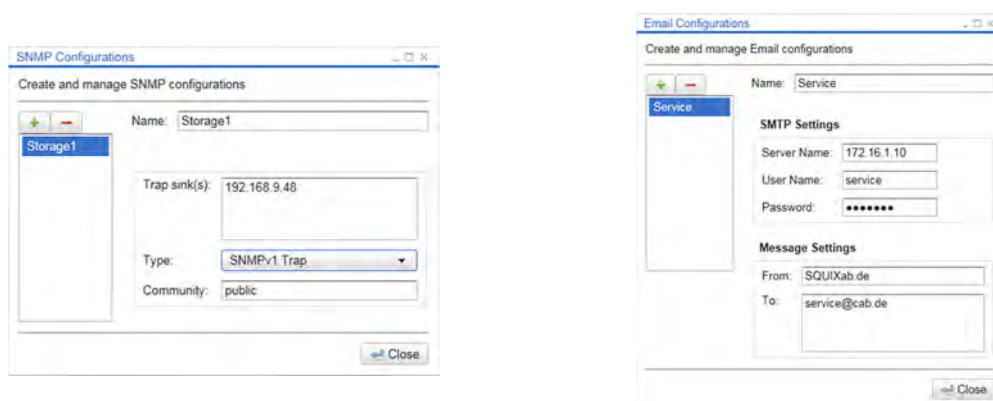


Figure 27 Dialog boxes for SNMP and e-mail configuration

12.6 Devices

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

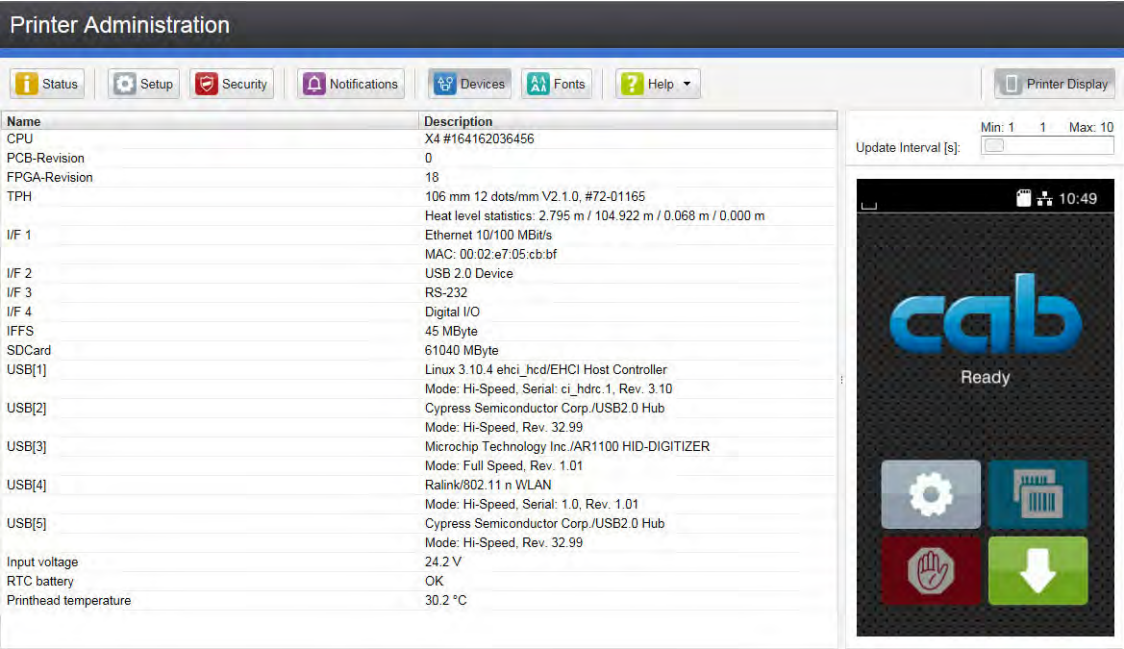


Figure 28 "Devices" tab on the printer web interface

The contents of the display correspond with those of the *Device list* ▷ "Table 25" on page 33.

12.7 Fonts

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.

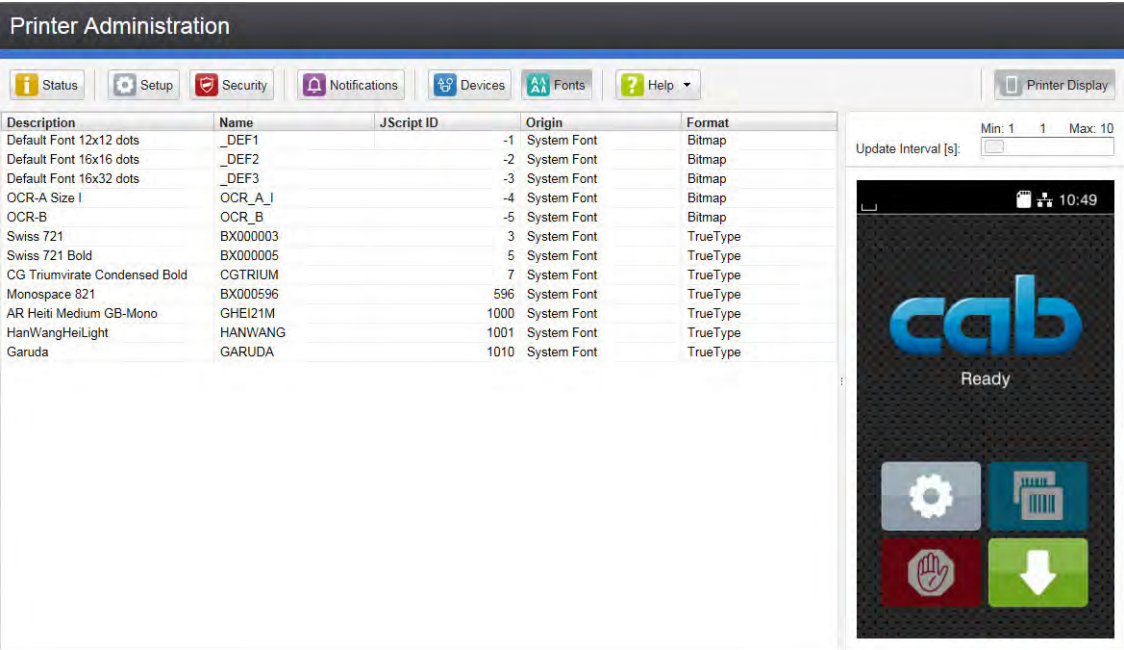


Figure 29 "Fonts" tab on the printer web interface

The parameters correspond to those in the *Font list* ▷ "Table 24" on page 32.

12.8 Help

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

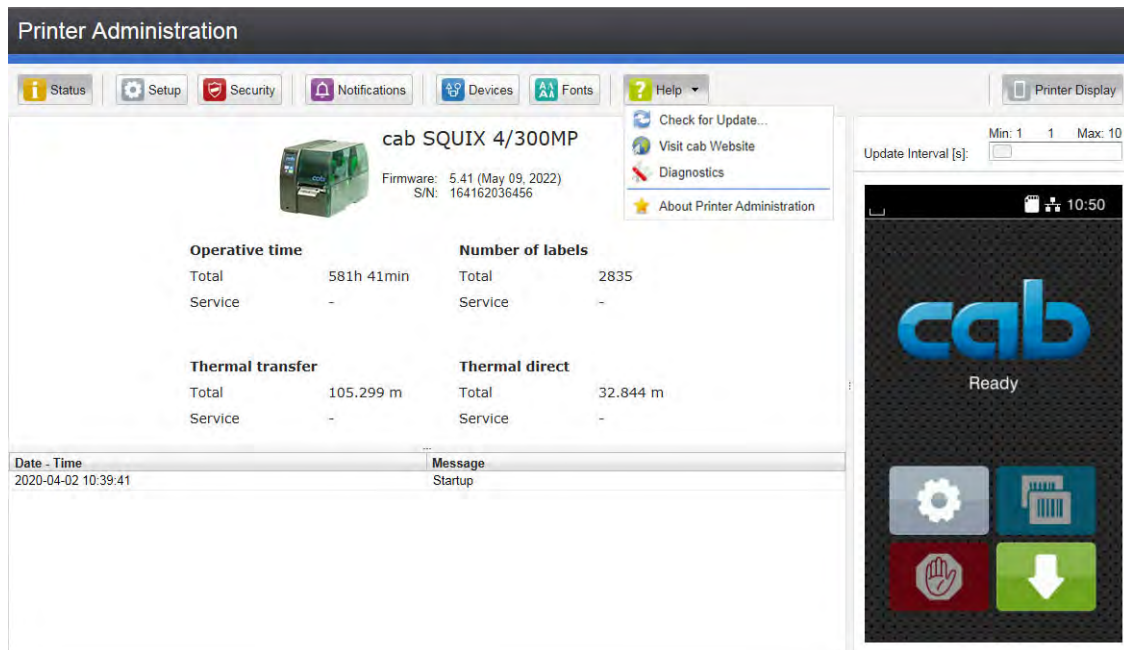


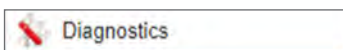
Figure 30 "Help" menu on the printer web interface



Check of the firmware version and offer for update.



Visit the cab-Website.



Starts a diagnostic program to check the printer.



Information about the version and the latest alterations of the web interface.

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:

Function	User name	Default password
FTP printing, loading PPP vouchers	ftpprint	print
FTP access to storage devices	ftpcard	card
FTP firmware update	ftpadmin	admin

Table 31 Default passwords



Notice!

- The passwords can be changed in the "Setup" tab of the web interface ► page 53.

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.

13.4 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. 542_2718.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.



Note!

Beside the printer firmware also the firmware of connected or integrated optional assembly units like cutters or I/O interfaces can be updated with the method described before.

The required firmware files have the format *.pfw .

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 host interface.
- SD cards
- WebDAV server

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. The widget  appears in the header of the start screen. To unlatch SD card press it shortly into the slot and remove it.
or
- Connect USB flash drive to an USB host interface. The widget  appears in the header of the start screen.



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:

Folder name	Contents
fonts	Font files
images	Graphic files
labels	Label description files
misc	Firmware, PPP, Setup and TMP files

Table 32 Directory structure



Note!

- **For saving files on a WebDAV server the directory structure must be generated manually.**

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	Command for saving the file XYZ
J	
H 100,0,T	
S l1;0,0,68,71,104	Contents of the file XYZ
T 10,10,0,3,pt15;memory card	
A 1[NOPRINT]	
Ms LBL	End of save command

- 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

► Start menu.

► Select  *Storage*.












Parameter	Meaning	Default
 <i>Load label</i>	Printing labels whose descriptions are stored on a storage device	
 <i>Print file list</i>	Printing a list a of the files stored on a storage device	
 <i>Copy files</i>	Copying files from one to another storage device	
 <i>Format storage</i>	Formatting a storage device and deleting all data	
 <i>Default storage</i>	Defining the storage device, which can be operated via interfaces and FTP printer management.	<i>SD card</i>
 <i>WebDAV</i>	Activation of the WebDAV protocol to allow the access the data stored on a server. The possibilities of access are depending on the server type and the administrator settings. <i>Disabled:</i> No access <i>User account:</i> Login with user name and password <i>Anonymous:</i> Anonymous login	<i>Disabled</i>
 <i>WebDAV server URL</i>	Address of the server area designated for the WebDAV access	-
 <i>WebDAV username</i>	User name for the WebDAV user account	-
 <i>WebDAV password</i>	Password for the WebDAV user account	-

Table 33 Menu *Storage*


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 reformats 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.

14.5.5 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.

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 host 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 :

Country	Keyboard
China	USA
South Africa	USA
Taiwan	USA
Mexico	Latin America
Egypt	Arabic

Table 34 Special assignments *Country - Keyboard*

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

Keyboard	First assignment	Second assignment
Bulgaria	Latin	Cyrillic
Greece	Latin	Greek
Iran	Latin	Persian
Macedonia	Latin	Cyrillic
Russia	Latin	Cyrillic
Thailand	Latin	Thai
Arabic	Latin	Arabic

Table 35 *Keyboard* settings with double assignment

16.3 Special Key Functions

General :






Keys	Function
[F1]	Executes the <i>Load label</i> storage device function.
[F2]	Prints an additional label from the last print job. Corresponds to  .
[F3]	Repeats the last print job with renewed polling of the variable data and polling of the label quantity.
[F8]	Functions like  : Label feed
[Enter]	Starts menu
[Esc]	Functions like short touch  : Cancels the current job
[Strg][Esc]	Functions like long touch  : Cancels all jobs
[Space]	Functions like  .

Table 36 Special key functions: general

In the menu and for entry of variable data:

Keys	Function
[Enter]	Confirms the input.
[Esc]	Cancels the input and returns.
[Shift][Entf]	Clears the input line.

Table 37 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.

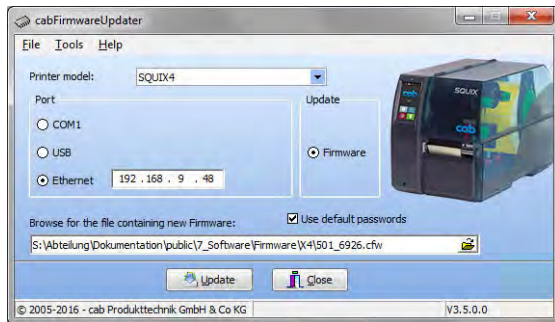


Figure 31 cabFirmwareUpdater

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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