



# ConfigTool

## User Manual

© Carl Valentin GmbH, 2024. All rights reserved.

Unauthorized reproduction of this manual, the software or the firmware supplied with the printer is subject to both criminal and civil prosecution and may result in severe fines and/or imprisonment in accordance with the laws and regulations in force in the relevant country. Copyright infringements will be prosecuted under civil law.

All brand names, product names or trademarks referenced in this manual are the property of their respective trademark owners.

### **Copyright Notice**

This manual contains information protected by copyright. This copyright-protected information may not be used, reproduced or disclosed to third parties for any purpose without express written consent.

### **Disclaimer**

The descriptions in this manual do not constitute warranted qualities in the legal sense or in the sense of product liability. The authors reserve the right to make changes to the manual or software without obligation to notify anyone of such changes. We make no warranty as to the accuracy of the contents of this manual. Despite all efforts, the manual may contain errors. We therefore welcome suggestions and tips that can improve the quality of our products.

**ConfigTool**  
**Version 8.50**  
**User manual**  
**05/19/2024**

Carl Valentin GmbH  
Neckarstrasse 78-86 u. 94  
78056 Villingen-Schwenningen, Deutschland

[www.carl-valentin.de](http://www.carl-valentin.de)

Phone +49 7720 9712-0  
Fax +49 7720 9712-9901  
Email [info@carl-valentin.de](mailto:info@carl-valentin.de)

# Table of Contents

<b>1 About This Manual .....</b>	<b>4</b>
1.1 Document Conventions .....	4
<b>2 About This Product.....</b>	<b>5</b>
<b>3 Installation .....</b>	<b>6</b>
3.1 System Requirements.....	6
3.2 First-Time Installation .....	6
3.3 Update Installation.....	7
<b>4 Getting Started .....</b>	<b>8</b>
4.1 Groups View .....	9
4.1.1 Add Group.....	9
4.1.2 Edit Group .....	10
4.1.3 Delete Group.....	10
4.2 Configuration Files View .....	10
4.2.1 Edit Configuration File .....	11
4.2.2 Rename or Delete Configuration File .....	11
4.2.3 Duplicate Configuration File .....	11
4.3 Firmware Updates View.....	11
4.3.1 Import Firmware Update.....	12
4.3.2 Rename or Delete Firmware Update.....	12
4.4 Customize List View.....	12
<b>5 Program Options.....</b>	<b>14</b>
5.1 General.....	14
5.2 Search Settings - General.....	15
5.3 Search Settings - COM.....	16
5.4 Start/Stop Characters .....	16
5.5 Firmware Updates .....	17
5.6 File Locations .....	17
5.7 Language .....	18
5.8 Check for Updates.....	18
<b>6 Printer Search .....</b>	<b>19</b>
6.1 Search Printers in Local Subnet.....	19
6.2 Search Printers in Network Area .....	19
6.3 Add Printer.....	20
6.4 Modify Invalid IP Address .....	20
<b>7 Printer Management .....</b>	<b>21</b>
7.1 Update Printer Firmware.....	21
7.2 Modify Printer Settings .....	21
7.3 Manage Printer Configurations.....	23
7.3.1 Save Printer Configuration .....	23
7.3.2 Restore Printer Configuration .....	23
7.3.3 Export Printer Configuration.....	24
7.4 Change Port Settings .....	24
7.4.1 Wireless Network Port .....	25
7.4.1.1 Troubleshooting.....	26
7.5 Change Date and Time .....	27
7.6 Modify Password Settings.....	27
7.7 Edit Metadata .....	28
7.8 Change HMI Logo .....	29

<b>8 Printer Monitoring</b>	<b>30</b>
8.1 Update Printer Status	30
8.2 Display Printer Errors	30
8.3 Monitor Photocells	31
8.4 Print Storage Viewer	32
8.5 Logging	33
8.5.1 Create Log File	33
8.5.2 Open Log File	34
<b>9 Printer Control</b>	<b>35</b>
9.1 Printer Commands	35
9.2 Remote Console	35
9.2.1 System Menu	36
9.2.2 Key Codes	37
9.3 Command Editor	38
<b>10 Macro Programming</b>	<b>39</b>
10.1 Script API	39
10.2 Code Sample	41
<b>11 Technical Support</b>	<b>42</b>
<b>Appendix A - Command Line Parameters</b>	<b>43</b>

# 1 About This Manual

This documentation provides you with useful information and tips on how to use the ConfigTool.

## Who Should Read This Manual





This manual is intended for administrators of Valentin label printers, direct prints and printing modules.

## How This Manual Is Organized

- **About This Product**
- **Installation** - This section identifies the system requirements and walks you through the program installation.
- **Getting Started** - This section provides information about the user interface and instructions on working with the basic functions of the ConfigTool.
- **Program Options** - This section will detail the specific options available in this dialog.
- **Printer Search** - This section explains how to find or add printers so that they can be used within the ConfigTool.
- **Printer Management** - This section gives you an overview of the various options you can use to manage the printers in your network environment.
- **Printer Monitoring** - There are several tools available to help you monitor and troubleshoot printers in your enterprise network. This section tells you how to use these features.
- **Printer Control** - This section explains how you can operate and (remotely) control printers using the ConfigTool.
- **Macro Programming** - This section describes the ConfigTool macro facilities.

## 1.1 Document Conventions

The following symbols and text conventions are used in this documentation:

Symbol/Convention	Description
	WARNING - Provides a critical warning. You should always read warnings, like this one. They will help you avoid making serious mistakes, or wasting your time.
	IMPORTANT - Provides clarifying information or specific instructions. It is recommended that you read the text or follow the link.
	NOTE - Provides a tip, guidance, or advice, emphasizes important information, or provides a reference to related information.
	EXAMPLE - Provides references to sample files.
<b>Save</b>	Name of buttons, windows, menu items and other program interface elements.
<b>[CTRL]</b>	Keyboard keys.
C:\Windows\	Name of files and folders, code examples.
<UserName>	Placeholders.
<a href="#">Appendix A</a>	Cross-references to other locations in the document or internal hyperlinks to web pages.

## 2 About This Product

**One For All** – ConfigTool is your universal software application for updating, monitoring and controlling your label printers, direct prints and printing modules. Flexibility and simplicity of operation are central features: printers without an LCD display can be configured conveniently via corresponding dialog boxes. By the generation of a printer configuration file, the settings of one or more printing systems can be saved or restored.

- Simple updating and configuration of all printing systems
- Supports all interfaces (parallel, seriell, USB, and TCP/IP)
- Reading, changing, and transferring of printing parameters and options
- Securing of the current printer settings in configuration files possible

## 3 Installation

This section identifies the system requirements and walks you through the program installation.



Before installing ConfigTool: Please check if your computer fulfills the [system requirements](#). This ensures that the installation can be completed correctly.

### 3.1 System Requirements

#### Operating System

- Windows 10/11 x64
- Windows Server 2016/2019/2022 x64

#### .NET Framework

- .NET Framework 4.7.2 or later
- The installer will automatically install all required .NET Framework components
- Active internet connection to update .NET Framework

Click the link below for instructions on installing the latest version of the .NET Framework on your computer:

- [Install the .NET Framework on Windows 10 and Windows Server 2016 and later](#)

### 3.2 First-Time Installation



Administration rights are required for installation.

1. Download the latest version of the ConfigTool from [here](#) (under **Downloads**).
  2. Run the downloaded file as administrator and follow the instructions on the screen.
- ✓ The program is now installed on your computer and can be used.

## 3.3 Update Installation

### How do I find out if there is a new update?

To find out whether a new program update is available, you have the following options:

- If the automatic update check is activated, you are automatically notified of a new update when the program starts.
- Click **File > Help > Check For Updates** to start the update process manually.
- Just visit our website [www.configtool.carl-valentin.de](http://www.configtool.carl-valentin.de). Under **Downloads** you can always find the latest version of the program.



If an older version of ConfigTool is already installed, you can just install the new version over it. There is no need to uninstall the old version first. Your existing settings will be retained.

### Activate Automatic Update Check

If you want to check automatically at program startup whether new updates are available, proceed as follows:

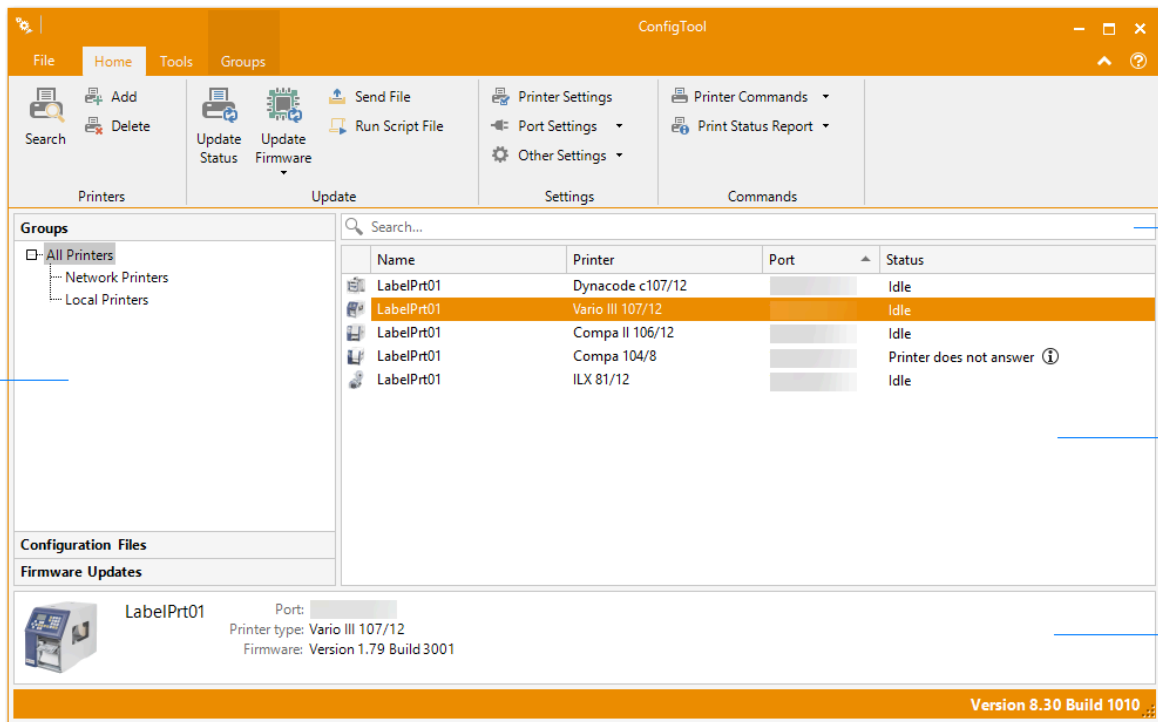
1. Click **File > Options**.  
The **Options** dialog box opens.
  2. Select **Check for Updates** tab.
  3. Select **Check for updates automatically** if you want to be notified when a new update is available.
  4. Click **OK** to close the dialog box.
- ✓ The automatic update check is activated.



To use this feature your computer must have an Internet connection and your firewall must not block access.



## 4 Getting Started



1

### Selection Area

In this area you can toggle between [Groups](#), [Configuration Files](#) and [Firmware Updates](#) views.

2

### Search Field

Provides a full text search over all printers in the printer list.

3

### Printer List

All printers that can be edited are displayed here. For information on how to add printers to the printer list, see [Printer Search](#), and for information on how to customize the view of the printer list to suit your needs, see [Customize List View](#).

4

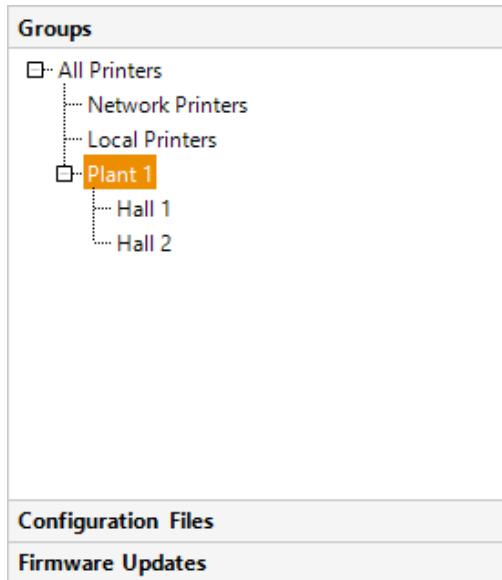
### Info Area

Displays information on the selected printer.

## 4.1 Groups View

For clarity, various printers can be grouped together. There are two predefined groups **Network Printers** and **Local Printers**. Each printer is automatically, depending on the used interface type, sorted into one of these two groups. These groups can not be edited or deleted.

You can also define your own groups.



- To add a printer to a group or to move a printer to another group, simply drag the printer from the printer list onto the desired group.
- By right-clicking on a selected group in the tree view, you can directly add a subgroup, edit, or delete this group.

### 4.1.1 Add Group

You can set up your own group of printers. Each printer can belong to one group.

1. Activate the **Groups** view.
2. Select the parent group, then perform one of the following actions:
  - On the **Groups** tab, click **Add**.
  - Right-click in the view and select **Add Group** from the context menu.

The **Group** dialog box opens.

3. Enter a group name.
  4. Select **Enable IP address range scanning** if you want to assign a specific IP address range to the group. For more information, see [Search Printers in Network Area](#).
  5. Click **OK** to close the dialog box.
- ✓ The new group is displayed in the tree view.

4.1.2 Edit Group

To change the details of a group, double-click the group in the tree view to open the corresponding dialog box.

Then click **OK** to apply the changes.

4.1.3 Delete Group

If you want to delete a group (and all related subgroups and printers), select the group in the tree view and then press the **[DEL]** key on your keyboard.

4.2 Configuration Files View


Shows all files contained in the **Printer Configurations Folder**.

Groups
Configuration Files
300.cfx
LabelPrt01.cfx
Test.cfx
Test_DHCP.cfx
Vario III.cfmt
Firmware Updates

By default, the printer configurations folder is located at %ProgramData%\ConfigTool\ConfigFiles. To change the printer configurations folder click **File > Options**, and then on the [File Locations](#) tab, pick a new location.

ConfigTool supports the following file types:

Extension	File Type
.cfmt	Configuration file in XML format.
.cfx	Configuration file in XML format (obsolete, should no longer be used).
.prn	Print file with CVPL commands.

 To update the printer configuration or to transfer a file to a printer, simply drag the file onto the desired printer.

### 4.2.1 Edit Configuration File

To edit the content of a file, double-click the file in the list view to open the corresponding dialog box.

Then click **Save** to apply the changes.

### 4.2.2 Rename or Delete Configuration File

Right-click on the file, then choose the appropriate command from the context menu. Select **Delete All** if you want to delete all files in the directory.

### 4.2.3 Duplicate Configuration File

Right-click on the file, then choose **Duplicate** from the context menu. A copy of the file appears in the list view.



The copied file is saved with the name of the original file by adding (2), (3), etc.

## 4.3 Firmware Updates View

Displays a list of the recently used firmware updates.

Groups
Configuration Files
Firmware Updates
<input type="checkbox"/> 145_COMPa_B02_43A149A5 <input type="checkbox"/> 149b_MICRA_B39SP80_5E78DDA1 <input type="checkbox"/> 153a_COMPa_B06_4CC6BE68 <input type="checkbox"/> 153a_COMPa_B21SP76_63EDF76D <input type="checkbox"/> 175_Vario III_B78_SVN19861_62838fb4 <input type="checkbox"/> 175_Vario III_B96_SVN20974_642d435a <input type="checkbox"/> 175_Vita II_B61_SVN17537_60f57d26 <input type="checkbox"/> 179_Compa V_B01_SVN19820_6274d711

By default, the import folder for firmware updates is located at %ProgramData%\ConfigTool\FirmwareUpdates. To change the firmware updates folder click **File > Options**, and then on the [File Locations](#) tab, pick a new location.



To update the printer firmware, simply drag the firmware onto the desired printer. For more information, see [Update Printer Firmware](#).

4.3.1 Import Firmware Update

1. Activate the **Firmware Updates** view.
  2. Perform one of the following actions:
    - On the **Firmware Updates** tab, click **Import**.
    - Right-click in the view and select **Import** from the context menu.The **File Open** dialog box opens.
  3. Navigate to and select a .zip file, then click **Open** to start the import.
- ✓ The imported firmware update is displayed in the list view.

For more information, see [Update Printer Firmware](#).

4.3.2 Rename or Delete Firmware Update







Right-click on the entry, then choose the appropriate command from the context menu. Select **Delete All** if you want to delete all entries at once.

4.4 Customize List View

You can customize the view of the printer list, by changing the column order, or by hiding certain columns.







Change Column Order

To change the column order, hover over a column header, click and drag the column to the desired location.

	Name	Printer	Port	▲	Status
	LabelPrt01	Compa II 106/12			Idle
	LabelPrt01	Vita II 106/12			Idle
	CVPICA2	Pica II 104/8			Idle
	LabelPrt01	Compa II 106/12			Idle
	Compa2-support	Compa II 106/12			Idle
	LabelPrt01	Vita II 106/12			Idle

Show or Hide Columns

Right-click on the column headings to open the context menu. Check or uncheck column names to show or hide columns.

	Name	Printer	Port	Status
	LabelPrt01	Compa II 106/12		Idle
	LabelPrt01	II 106/12		Idle
	CVPICA2	II 104/8		Idle
	LabelPrt01	Compa II 106/12		Idle
	Compa2-support	Compa II 106/12		Idle
	LabelPrt01	Vita II 106/12		Idle

## 5 Program Options

The ConfigTool has a large number of setting options with which you can customize the program to your personal requirements.

It is a good idea to check through these settings before you start working with the ConfigTool. You may be surprised at all the things you can adjust and configure!

### To Change the Program Options

1. In the main window, click **File > Options**.  
The **Options** dialog opens.
  2. Select the appropriate tab to configure your settings.
  3. Click **OK** to close the dialog.
- ✓ The changes are applied.



All settings marked with an asterisk (\*) take effect at the next application startup.

### 5.1 General

#### Settings

**Automatically search for printers at startup.** If this option is activated, a subnet-wide search for printers via UDP broadcast is started at application startup.

**Update printer status automatically.** If this option is activated, the printer status of the listed printers is automatically updated at a certain time interval. The printer states can switch between idle, printer does not answer, unknown printer type, etc. If the printer is in an error state, you can choose whether the state should be ignored, a notification should be displayed on the desktop or sent by email. For more information, see [Update Printer Status](#) and [Display Printer Errors](#).

**Save selected view.** If this option is activated, the current window configuration is saved and restored at the next program startup.



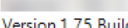
**Resolve IP addresses to DNS names.** Turns on the use of DNS to resolve an IP address into a host name.

**Cut DNS suffixes.** DNS names often contain suffixes, for example: `mary.depl.company.com`. When this option is selected, the DNS name will be displayed as `mary`.



To speed up the scanning process, you can disable the **Resolve IP addresses to DNS names** option. In this case, the program will only show IP addresses without DNS names.

**Enable metadata support.** If this option is activated, the metadata tags stored in a printer are read out and displayed in the info box of the [main window](#). For a detailed description on how to define metadata tags for a printer, see [Edit Metadata](#).

	LabelPrt01	Port: 	Inventory number: 12345-12345
	Printer type: 	Location: Plant 1 - Hall 1	
	Firmware: Version 1.75 Build 3065	Contact: John Smith (-10)	



Please note that not all printer types support metadata.

## 5.2 Search Settings - General

Here you can specify which interface types should be taken into account when [searching for a printer](#).

### Search Settings

**Search printers connected to local subnet (broadcast search).** Searches for all printers that are in the same network as the computer, i.e. connected to the same router.

Since modern routers normally block UDP broadcasts and limit them to the local subnet, only printers are found that are in the same network as the computer that sent the UDP broadcast request. To enable the search for available printers in a different subnet than your own, you can define additional network areas.

For more information, see [Printer Search](#).



For network access, ports 9099 and 9010 are used by default. Please make sure these ports are shared on your network.

**Search printers connected to USB.** Searches for all printers that are connected to the computer via a USB interface.



Please note that only those USB interfaces for which a valid printer driver is installed will be found.

**Search printers connected to LPT.** Searches for all printers that are connected to the computer via a parallel interface.



**Search printers connected to COM.** Searches for all printers that are connected to the computer via a serial interface.



A printer that is connected to the computer via the serial interface can only be found if the interface parameters exactly match the requirements of the connected printer. Since the serial interface supports a large number of different parameters (baud rate, parity, data bits, stop bits) and it would therefore take a long time to search through all parameter combinations, you can specify which parameters are to be taken into account on the [Search Settings > COM](#) tab.

## 5.3 Search Settings - COM

Here you can specify which interface parameters should be taken into account when [searching for a printer](#) connected to the computer via a serial interface.



Note that the duration to update the printer list depends on the number of parameters selected.

### Default Settings

- **Baud rate** - 9600, 19200
- **Parity**- Keine
- **Data bits** - 8
- **Stop bits** - 2

## 5.4 Start/Stop Characters

The beginning and end of a print command are marked with the start and stop characters.

Example: `<SOH>FCCA - r100<ETB>` sets the print speed to 100 mm/s.

### Predefined Start/Stop Character Combinations

- 0x01/0x17
- 0x5E/0x5F



Predefined start/stop character combinations cannot be changed or deleted.

## Settings

To manage the start/stop character combinations, perform one of the following actions:

- **Add new start/stop character combination**

Click the **Add** button to define a new start/stop character combination.

- **Edit start/stop character combination**

To edit a start/stop character combination, double-click the combination, or select the combination and then click the **Edit** button.

- **Delete start/stop character combination**

To delete a start/stop character combination, select the combination and then press **[DEL]** key, or click the **Remove** button.

## 5.5 Firmware Updates

### Settings

At a firmware update all printer settings are reset to their default values, e.g. start/stop character = 0x01/0x17, contrast = 100%, and dispenser = off.

Select one of the following options to define how to proceed after a firmware update:

- **Do nothing**

- **Restore current printer configuration**

If this option is activated, the current printer configuration is read out and temporarily stored before the firmware update is started, and transferred to the printer after the firmware update.

- **Restore printer configuration from file**

If this option is activated, the selected *.cfx* file is transferred to the printer after the firmware update. For more information, see [Manage Printer Configurations](#).

## 5.6 File Locations

### Folder Settings

**Firmware updates folder.** Specifies the directory where the imported firmware updates are stored. Leave this field blank to use the default directory: %ProgramData%\ConfigTool\FirmwareUpdates.

A complete list of the imported firmware updates can be found in the [Firmware Updates](#) view.

**Printer configurations folder.** Specifies the directory where the printer configurations are stored by default. Leave this field blank to use the default directory: %ProgramData%\ConfigTool\ConfigFiles.

A complete list of the stored configuration files can be found in the [Configuration Files](#) view.

## Printer Definitions

**Printer definition file.** Specifies the name and location of the printer definition file. Leave this field blank to use the default file: <InstallDir>\Printers\PrnDef.xml.

**Printer definition files folder.** Specifies the directory where the printer definition files are located. Leave this field blank to use the default directory: <InstallDir>\Printers.

## 5.7 Language

You can change the language of the menus and dialog boxes used in the ConfigTool.

### Settings

Select an entry from the list of available languages. If the entry **(Same as the system)** is selected, the system language which is currently set (provided that the language is available, otherwise English) will be used by default .



If you have changed the language, you must quit and restart all ConfigTool applications that are currently opened.

## 5.8 Check for Updates

### Settings

**Check for updates automatically.** If this option is activated, you will be notified at program startup if a new update is available.



To use this feature your computer must have an Internet connection and your firewall must not block access.

## 6 Printer Search

This section explains how to find or add printers so that they can be used within the ConfigTool.

### 6.1 Search Printers in Local Subnet

To start the printer search, perform one of the following actions:

- On the **Home** tab, click **Printers > Search**.
- Right-click in the printer list and select **Search Printers** from the context menu.

By default the local subnet and the available USB ports are searched for existing Valentin printers.

#### How can the search settings be adjusted?

On the [Search Settings General](#) tab in the [Options](#) dialog box you can define which interface types should be taken into account when searching for a printer.

#### How can the printer list be updated automatically at program startup?

If you want the printer search to start automatically each time the program starts, activate **Automatically search for printers at startup** on the [General](#) tab in the [Options](#) dialog box.

### 6.2 Search Printers in Network Area

By default a Broadcast search is performed, i.e. a UDP broadcast is sent to all devices. Since modern routers normally block UDP broadcasts and limit them to the local subnet, only printers are found that are in the same network as the computer that sent the UDP broadcast request.

To search for printers in a subnet other than your own, you must create a [group](#) that is assigned to a specific network area.

To start the printer search in a network area, right-click the group and select **Search Printers** from the context menu. The ConfigTool checks all IP addresses within the specified range one after the other.

## 6.3 Add Printer

If you would like to use a printer and the printer search has not found what you are looking for, the ConfigTool can help. Add the printer by hand.

1. Open the **Add Printer** wizard:
    - On the **Home** tab, click **Printers > Add**.
    - Right-click in the printer list and select **Add Printer** from the context menu.
  2. Select a local interface or enter the IP address of the printer you want to add, and then click **Next**.
  3. Follow the instructions in the wizard to configure the printer.
  4. Click **Finish** to close the wizard.
- ✓ The new printer is displayed in the printer list.



Interfaces that are already used cannot be assigned twice.

## 6.4 Modify Invalid IP Address

Valentin printers are delivered with the preset IP address "192.168.0.21" which must, however, be changed in the setup procedure. As long as the printers are in the local subnet, they will still be recognized and displayed by the ConfigTool.

If your network is in the IP range 192.168.0.xxx, you can get started right away. If the status message "Invalid IP address" is displayed, you are in a different network environment. In this case you have to assign a new IP address that is valid for your network.

For a detailed description on how to change the IP address, see [Change Port Settings](#).

## 7 Printer Management

This section gives you an overview of the various options you can use to manage the printers in your network environment.

### 7.1 Update Printer Firmware



Do not remove connection, cancel update, reset printer, or do other actions during update. It could be unable to startup the printer when update failed. It can take several minutes to complete the update process, please have some patience.

1. Select one or more printers, and perform one of the following actions:
  - On the **Home** tab, click **Update > Update Firmware**.
  - Right-click and select **Update Firmware** from the context menu.
2. Select an existing firmware update or click **Import** to use a new firmware update.
3. For printers that are connected via network interface, the update is executed automatically. Otherwise follow the instructions in the wizard.



A firmware update can only be executed if the printer is idle.

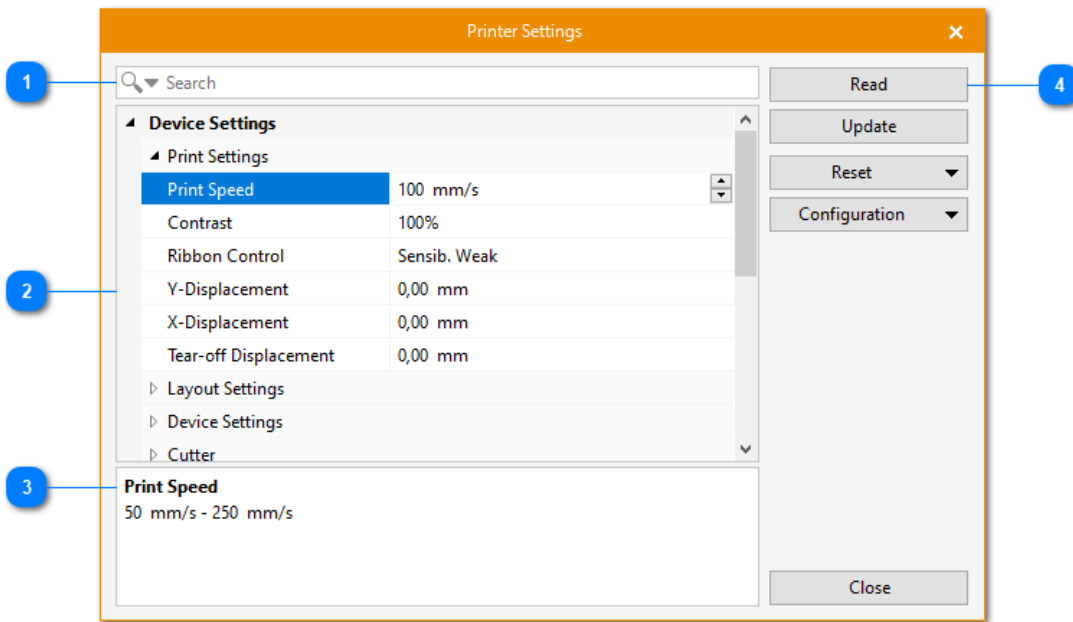
A complete list of the recently used firmware updates can be found in the [Firmware Updates](#) view.

### 7.2 Modify Printer Settings


One of the most important features in the ConfigTool is the ability to read out and change the current printer settings. It is also possible to save the settings so that they can be restored later and used to configure other printers.

To open the **Printer Settings** dialog box, perform one of the following actions:

- Select a printer, and on the **Home** tab, click **Settings > Printer Settings**.
- Right-click a printer and select **Printer Settings** from the context menu.
- Double-click a printer.



### 1 Search Field

You can search for a specific text in the parameter list. To set display mode, click the magnifying glass  in the search field:

- Select **Show all** to see all parameters.
- Select **Show modified only** to see only the modified parameters.

### 2 Parameter List

Displays a grouped list of the parameters with their actual values. Right-click a print parameter or a group of print parameters and select **Reset** from the context menu to reset the parameters to their default values.

### 3 Description

Displays information on the selected parameter. To hide the description area, right-click on the parameter list, and uncheck **Show Description**.

### 4 Buttons

Click on:

- **Read**, to read out the actual values of the print parameters from the printer.
- **Update**, to save the values of the print parameters to the printer.
- **Reset > To Factory Defaults**, to reset the print parameters in the printer to their factory defaults. Enter the password and click **OK**. To complete the process, the printer will restart automatically.
- **Configuration > Load**, to load a `.cfx` file.
- **Configuration > Save**, to save your printer configuration in a printer independent `.cfx` file. This allows you to easily load a printer configuration onto a new printer or restore it after a firmware update.
- **Configuration > Export**, to save your printer configuration e.g. as a PDF file.

For more information, see [Manage Printer Configurations](#).

## 7.3 Manage Printer Configurations

A large number of printer settings can be made in the ConfigTool. If you have set up a printer, you might want to save the current state in order to be able to restore the printer configuration, if necessary. A conservative way could be to write down all configuration steps in a file. However, since the settings that have been made are often changed or undone, the effort for such documentation would be very great. Likewise, this configuration can only be set up again "manually".

It is easier and more effective with `.cfx` files. The printer settings are saved in these configuration files so that they can be easily restored.

This section describes how you can use the ConfigTool to manage the configuration files.

### 7.3.1 Save Printer Configuration

1. Perform one of the following actions:

- Select a printer, and on the **Home** tab, click **Settings > Printer Settings**.
- Right-click a printer and select **Printer Settings** from the context menu.
- Double-click a printer.

The **Printer Settings** dialog box opens.

2. Set up the printer the way you want.

3. Click **Configuration > Save**.

4. Choose a location where the `.cfx` file will be saved and give it a name.

✓ The configuration file is saved on the hard disk.



In order for the configuration file to be displayed in the [Configuration Files](#) view, the file must be stored in the [printer configurations folder](#).

### 7.3.2 Restore Printer Configuration

There are two ways to upload a configuration file into a printer.

#### Option 1:

1. Activate [Configuration Files](#) view.

2. Select `.cfx` file from the list and drag it onto one or more printers.

✓ The printer settings are updated.



## Option 2:

1. Perform one of the following actions:
  - Select a printer, and on the **Home** tab, click **Settings > Printer Settings**.
  - Right-click a printer and select **Printer Settings** from the context menu.
  - Double-click a printer.

The **Printer Settings** dialog box opens.

2. Click **Configuration > Load**.
  3. Select the `.cfx` file that needs to be sent to the printer.
  4. Click **Update**.
- ✓ The printer settings are updated.

### 7.3.3 Export Printer Configuration

A printer configuration can be exported in various file formats that can be used in other applications.

1. Perform one of the following actions:
  - Select a printer, and on the **Home** tab, click **Settings > Printer Settings**.
  - Right-click a printer and select **Printer Settings** from the context menu.
  - Double-click a printer.

The **Printer Settings** dialog box opens.

3. Click **Configuration > Export**.
  4. Select a file format in **Save as type** list:
    - \*.pdf - Portable Document Format
    - \*.xlsx - Excel spreadsheet
    - \*.csv - Formatted text file
    - \*.txt - Unformatted text file
  5. Choose a location where the file will be saved and give it a name.
- ✓ The file is saved on the hard disk.

## 7.4 Change Port Settings

You can change the connection settings for the following interface types in the ConfigTool:

- Serial Port
- Network Port
- [Wireless Network Port](#)

To open the appropriate dialog box, perform one of the following actions:

- Select a printer, and on the **Home** tab, click **Settings > Port Settings**, and then select the interface type you want to configure.
- Right-click a printer and select **Port Settings** from the context menu, and then select the interface type you want to configure.

### 7.4.1 Wireless Network Port



- WLAN settings cannot be changed via WLAN. To configure the WLAN interface of a printer you need to access the printer via network.
- For communication the ports 4201 and/or 23 are used by default. Please make sure that these ports are shared in your network.

LAN Information	
Boot Method	DHCP
Default Gateway	
IP Address	
MAC Address	
Subnet Mask	255.255.255.0

Server Information	
Firmware Version	BB3-1.02 (2018.02.14)
Model	SX-590

Wireless LAN Information	
Authentication Type	PSK
Current Channel	11
Current SSID	CVTEST3
MAC Address	
Signal Quality	62%

**SX-590**  
BB3-1.02 (2018.02.14)



Please note that the printer-internal WLAN module needs about 1 minute to restart after each data transfer.

A detailed description of the WLAN module used in the printer can be found here: `<InstallDir>\Documentation\140-20151-100-SX-590_Manual_eng.pdf`. The console commands are summarized in Appendix B of this manual.

### 7.4.1.1 Troubleshooting

There are many reasons why you cannot make a WLAN connection to the printer.

#### WLAN is not working: Am I online at all?

At first, you should try to establish the WLAN connection to another device. This way, you can find out if the WLAN is generally not working or if the printer is causing problems.

#### Without the correct WLAN password, nothing will happen

Normally the WLAN is password protected. To establish a WLAN connection to the printer you must enter the SSID, the encryption type and the password (case sensitive).

The screenshot shows the 'Wireless Network Settings' window for an 'SX-590' printer (BB3-1.02 (2018.02.14)). The left sidebar contains a tree view with 'Status', 'Settings', 'Network Configuration', 'LAN', 'WLAN' (highlighted), and 'Maintenance'. The main area is titled 'WLAN Configuration' and contains the following fields:

- SSID:** CVTEST3
- Network authentication:** WPA2 Personal (dropdown menu)
- WPA/WPA2 Configuration:**
  - Encryption mode:** AES (dropdown menu)
  - Pre-Shared key:** (password field with an information icon and a toggle for visibility)

A 'Send Data' button is located at the bottom right of the configuration area.

#### WLAN wireless problems: Do you have enough range?

Often problems occur e.g. through reinforced concrete in new buildings. This has a strong shielding effect and your WLAN signal is already weak after only one or two walls that no connection can be established.

#### Avoid WLAN interference

Even sources of interference like other electrical devices can block your WLAN network. You should switch off these devices or even better, place the devices somewhere else. WLAN interferences can also occur if too many users use the same wireless channel. In this case, it helps if you move in the settings of your router to another channel.

## Protection mechanism blocks WLAN

If you are sure that the WLAN settings are correct and the WLAN signal is not blocked but the connection still does not work, it is probably because the MAC filter is enabled in the router.

The MAC address (Media Access Control Address) is the fixed, worldwide unique hardware address of each network device. In most WLAN routers you can specify that only certain WLAN devices are allowed to connect – filtering is effected via the MAC address. Check in the router if this option is activated. Sometimes it calls itself „restrict access to known WLAN devices“.

Either enter the MAC address of the new device or deactivate the MAC filtering completely.

## 7.5 Change Date and Time

Date and Time are factory preset and may be changed manually.

1. Perform one of the following actions:

- Select a printer, and on the **Home** tab, click **Settings > Other Settings > Date and Time**.
- Right-click a printer and select **Other Settings > Date and Time** from the context menu.

The **Date and Time** dialog box opens.

2. Choose **Synchronize with system date and time**, or enter the new date and time manually.

3. Click **Update**.

✓ The date and time is updated in the printer.

## 7.6 Modify Password Settings

The ConfigTool enables you to protect printer access with a password. In addition, various printer functions can be restricted with the password.

The following printer functions can be restricted:

- **Functions Menu**  
Prevents access to the Functions menu. Printer settings (e.g. contrast, print speed, operating mode) can be changed in the function menu.
- **Favorites List**  
Prevents access to the Favorites list.
- **Manual Reprint**  
Prevents the manual reprint of a label at the printer.
- **Memory Card**  
Prevents access to the Memory Card. Access to the standard directory can be allowed.

To open the **Password** dialog box, perform one of the following actions:

- Select a printer, and on the **Home** tab, click **Settings > Other Settings > Password**.
- Right-click a printer and select **Other Settings > Password** from the context menu.



If the printer access is password protected in the ConfigTool, you need to enter the password for the printer only once. As long as you do not exit the ConfigTool, you do not have to enter the password again.

## 7.7 Edit Metadata



- Metadata tags are not available for all printer types.
- If you get the error message "No metadata available." you may need to update the printer firmware to a newer version.



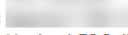
### What is Metadata?

Metadata enriches the printer with information that makes it easier to find, use and manage. This could be, for example, the location of the printer or the person who should be contacted when an error occurs.

Metadata tags are always structured the same. They consist of a title and a description. ConfigTool enables you to define your own metadata. This allows you to adapt the metadata stored in the printer to your own needs.

### Show Metadata

The metadata of the selected printer is displayed in the info box of the [main window](#) along with permanently generated information such as port, printer type and current firmware version. In order for the metadata to be displayed, you must activate **Enable metadata support** on the [General](#) tab in the **Options** dialog box.

	LabelPrt01	Port:  Printer type:  Firmware: Version 1.75 Build 3065	Inventory number: 12345-12345 Location: Plant 1 - Hall 1 Contact: John Smith (-10)
---	------------	---	--

### Manage Metadata

You can view and edit a printer's metadata in the **Metadata** dialog box.

To open the dialog box, perform one of the following actions:

- Select a printer, and on the **Home** tab, click **Settings > Other Settings > Metadata**.
- Right-click a printer and select **Other Settings > Metadata** from the context menu.

To manage the metadata tags, perform one of the following actions:

- **Add new metadata tag**

Make sure that no items are selected in the list. Enter the title and description in the two input fields and click **Add**.

- **Edit metadata tag**

Select an item in the list and change the title and description.

- **Delete metadata tag**

Select an item in the list, and then press **[DEL]** key or click the **Remove** button.

- **Delete all metadata tags**

Click the **Clear** button if you want to delete all items in the list.

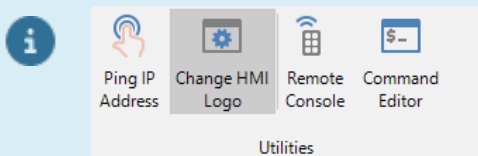
- **Import metadata tags**

To add multiple tags to the list, click the **Import** button and load the appropriate `.cfm` file.

- **Export metadata tags**

Click the **Export** button if you want to export the list to a `.cfm` file.

## 7.8 Change HMI Logo



This button is only visible if the program is started with the command line parameter "-hmilogo".

1. Perform one of the following actions:

- Select a printer, and on the **Tools** tab, click **Utilities > Change HMI Logo**.
- Right-click a printer and select **Tools > Change HMI Logo** from the context menu.

The **HMI Logo** dialog box opens.

2. Click **Choose File** to select an image file.

The supported image file formats are Windows bitmap (.bmp), Portable Network Graphic (.png), and JPEG (.jpg).

3. Click **Upload Logo**.

✓ The new logo is shown in the printer display.



The logo is recommended to be no larger than 230 x 78 pixels. Anything larger will be scaled to fit the designated logo size.

## 8 Printer Monitoring

There are several tools available to help you monitor and troubleshoot printers in your enterprise network. This section tells you how to use these features.

### 8.1 Update Printer Status

#### Update Printer Status Manually

To update the printer status, select one or more printers, and perform one of the following actions:

- On the **Home** tab, click **Update > Update Status**.
- Right-click and select **Update Status** from the context menu.

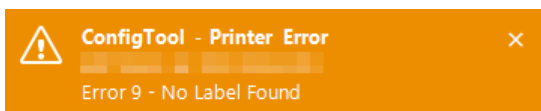
#### Update Printer Status Automatically

You can also update the printer status automatically at regular intervals. Activate **Update printer status automatically** on the [General](#) tab in the [Options](#) dialog box. Here you can also specify a time interval in seconds with which the automatic update should take place. By default, the interval is set to 30 seconds.

### 8.2 Display Printer Errors

If the printer status is updated automatically, you can define whether you want to be notified if a printer error occurred. Click **File > Options**, and on the [General](#) tab, choose an option from the **On printer errors** drop-down list:

- **Do nothing**
- **Show desktop notification**



- **Show email notification**  
Click **Setup Email Settings** to define the email address the notification is to be sent to.

For information on how to reset a printer error, see [Printer Commands](#).





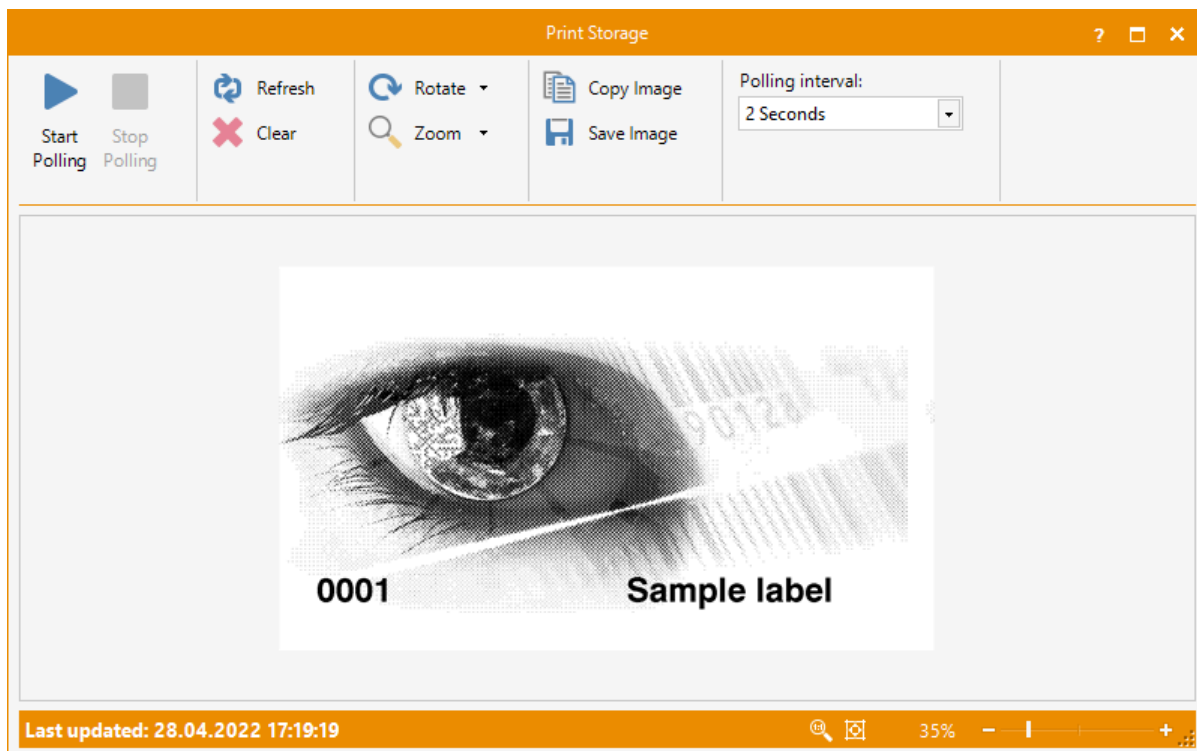
## 8.4 Print Storage Viewer



With this feature you can read out the contents of the print memory if a print job is currently active in the printer.

To open the **Print Storage** dialog box, perform one of the following actions:

- Select a printer, and on the **Tools** tab, click **Support > Print Storage Viewer**.
- Right-click a printer and select **Tools > Print Storage Viewer** from the context menu.



## 8.5 Logging

When troubleshooting printer problems, it can be very helpful to evaluate the log files generated by the printer. These log files contain information about printer status and events that can be very helpful in diagnosing a problem.

The printer supports various types of logging, including (amongst other) the following log types:

- **Trace Log** - Logs general information.
- **Error Log** - Logs errors that occurred while printing.
- **Net Log** - Logs printer commands send to the printer.
- **Chart Log** - Records the events generated during a print job.
- **Config Log** - Displays the current printer settings.

### 8.5.1 Create Log File

1. Select a printer, and perform one of the following actions:
  - On the **Tools** tab, in the **Support > Logging** group, click **Data Logger** or **Chart Logger**.
  - Right-click and select **Logging > Data Logger** or **Chart Logger** from the context menu.

The **Log Viewer** dialog box opens.

2. Reproduce the issue.
  3. Click **Save Log Files**, select the desired location, and then click **Save**.
- ✓ The log files are stored in a `.zip` file.

## 8.5.2 Open Log File

To open a previously saved log file, perform one of the following actions:

- On the **Tools** tab, click **Support > Logging > Open Logs**.
- Right-click in the printer list and select **Logging > Open Logs** from the context menu.



## 9 Printer Control

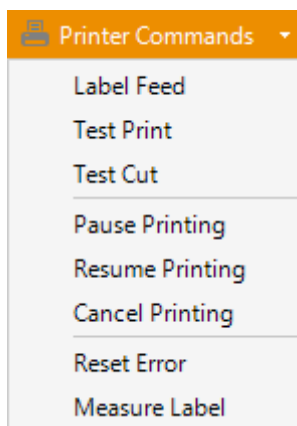
This section explains how you can operate and (remotely) control printers using the ConfigTool.

### 9.1 Printer Commands

Valentin printers support the CVPL printer language. CVPL (CV Programming Language) is a command based language used to control the printer directly.

To send a printer command, select one or more printers, and perform one of the following actions:

- On the **Home** tab, click **Commands > Printer Commands**.
- Right-click and select **Printer Commands** from the context menu.



If you would like to send other printer commands to the printer, use the [Command Editor](#).

### 9.2 Remote Console

The **Remote Console** can be used as a "remote control" for the printer. In the **Remote Console** dialog box [shortcuts](#) can be simulated and the content of the printer display is shown.

The **Remote Console** is a standalone application that runs independently of the ConfigTool, but can also be called from the ConfigTool.

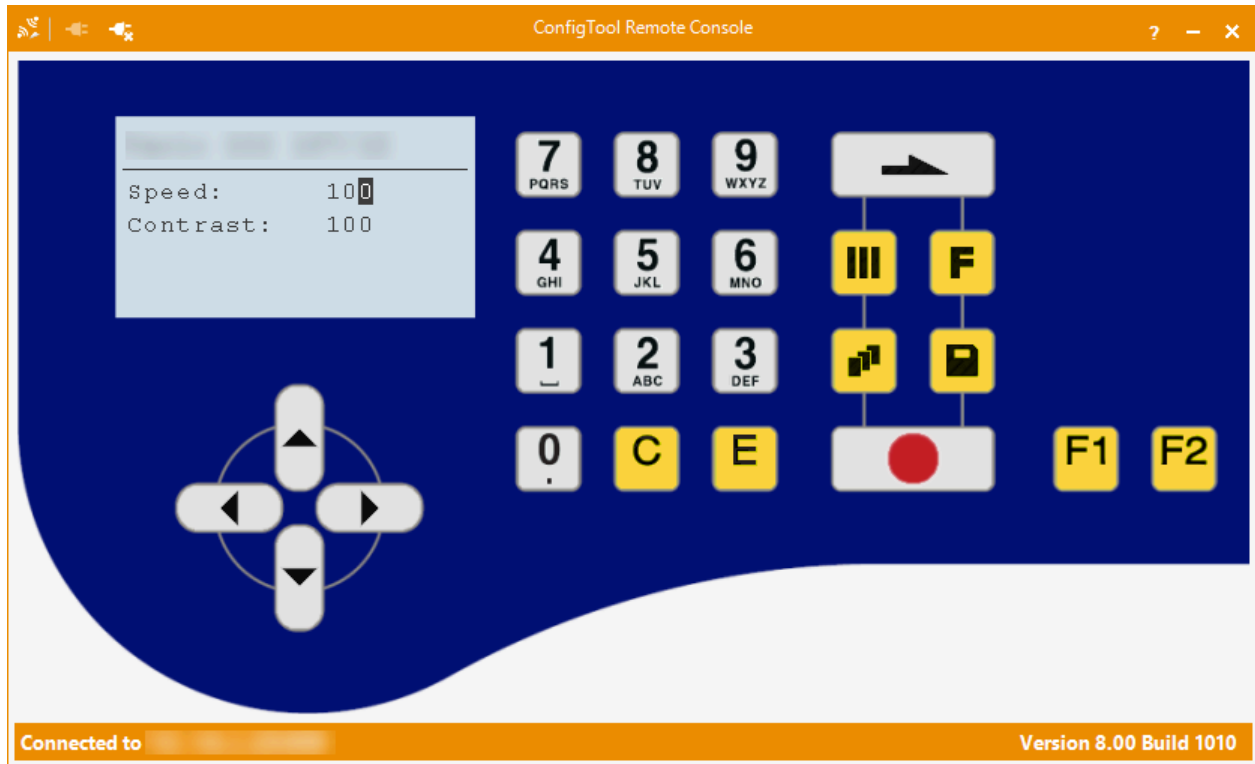
#### Start Application under Windows

- Open the Windows start menu and search for **Remote Console**.
- Enter the IP address of the label printer and click **OK**.

## Start Application from the ConfigTool

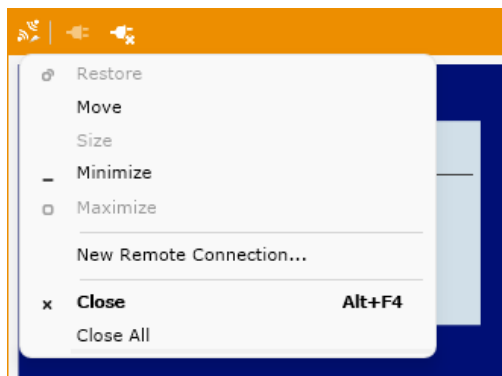
To open the **Remote Console** dialog box from the ConfigTool, perform one of the following actions:

- Select a printer, and on the **Tools** tab, click **Utilities > Remote Console**.
- Right-click a printer and select **Tools > Remote Console** from the context menu.



### 9.2.1 System Menu

The [Remote Console](#) has an extended system menu.









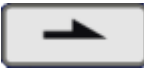













In addition to the default menu items **Move**, **Minimize** and **Close**, there are also the following menu items:

- **New Remote Connection** - Enter the IP address of the label printer and click **OK**.
- **Close All** - Closes all open windows and exits the program.

## 9.2.2 Key Codes

The following table lists the functions and the associated key codes defined in conjunction with the [Remote Console](#).

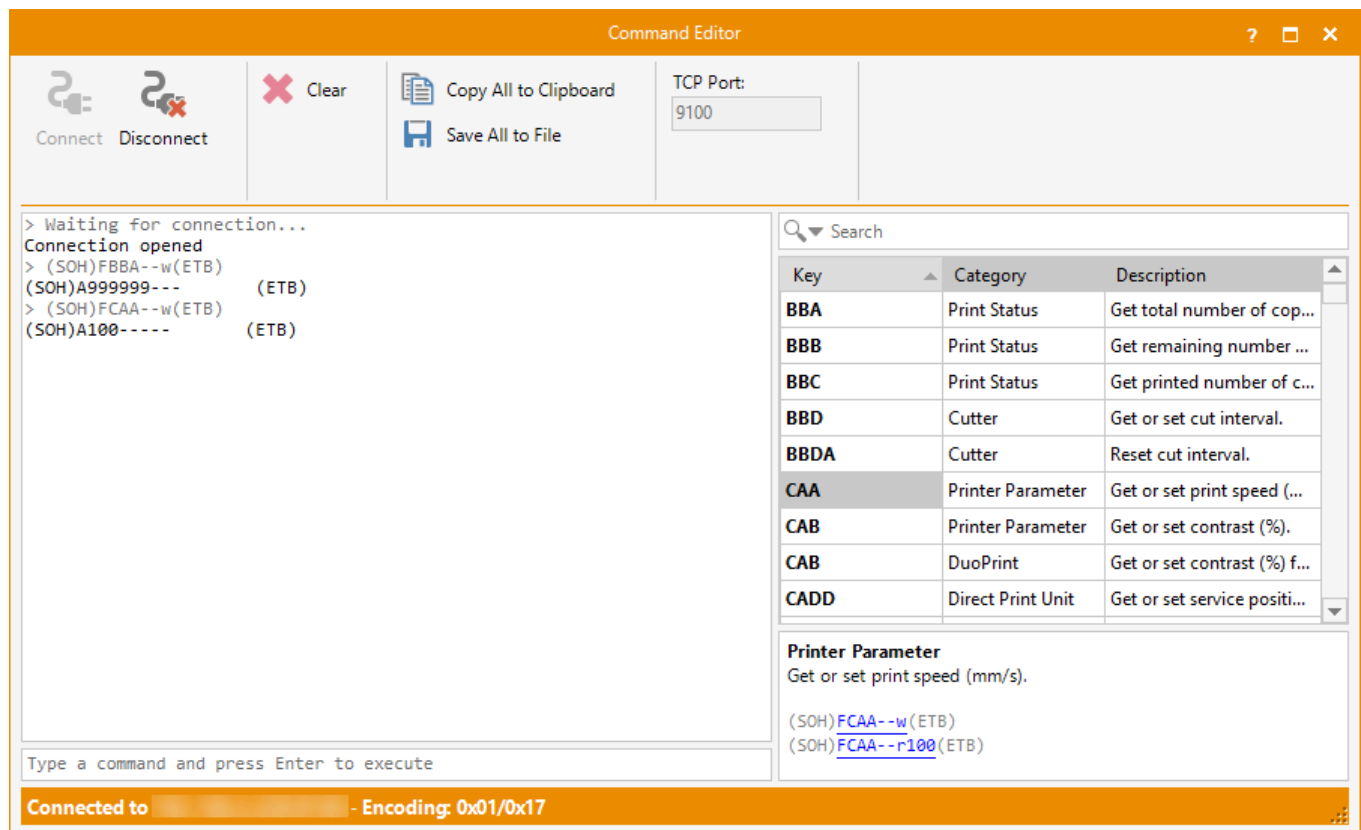
Button (Keypad)	Button (Keyboard)	Function
		Basic Menu/Test Print
		Function Menu
		Print Menu
		Memory Card Menu
		Label Feed
		Start/Stop
		Move up
		Move left
		Move right
		Move down

## 9.3 Command Editor

Using the **Command Editor** you can send commands easily and comfortable to the printer.

To open the **Command Editor** dialog box, perform one of the following actions:



- Select a printer, and on the **Tools** tab, click **Utilities > Command Editor**.
- Right-click a printer and select **Tools > Command Editor** from the context menu.



Enter a CVPL command in the command line, or select a command from the list and click on the related link. Press **[ENTER]** key to execute the command. A complete description of the supported CVPL commands can be found in the interface description of your Valentin printer.

### Useful Tips

- **Previous command history - the up/down arrow keys**

The command editor remembers all the commands that you recently typed in. At any time, you can set the text of your command to any of these previous commands, as if you had just typed it in. It is then trivial to go back and edit those sections that need to be amended. By scrolling with the up  and down  arrow keys, you can access previously typed commands -- including the ones with typos.

- **Command completion - the TAB key**

When you partially enter a command, the command-completion feature either automatically completes your command or displays a suggested list of commands. To prompt command completion, enter the beginning of a command and press the **[TAB]** key.

# 10 Macro Programming

The ConfigTool supports macro programming with the [IronPython](#) language. Macros are functions within script files, identified as modules, that are executed by the integrated interpreter.


To execute a macro, perform one of the following actions:

- Select a printer, and on the **Home** tab, click **Update > Run Script File**.
- Right-click a printer and select **Run Script File** from the context menu.

To be a valid macro, the module **MUST** define the Run function:

```
def Run(portName, deviceId):  
    ...
```

This function is called by the ConfigTool to start execution.



- [IronPython](#) is a case-sensitive programming language, so e.g. "Run" is not the same as "run". Variables, functions, and objects in IronPython must be called exactly how they are named, including the case.
- To create and test a script file a development environment (e.g. Visual Studio) should be used.

## 10.1 Script API

In this section you will find a list of the objects and functions provided by the ConfigTool for use within a script.

### Functions

```
def Run(portName, deviceId):  
    ...
```

This function is called by the ConfigTool to start the execution of the the macro.

Parameter	Data Type	Description
portName	String	Port (IP address, USB port, ...) to which a connection is to be established.
deviceId	String	Unique device ID.

### Return Value

None



Variables

Name	Data Type	Description
IsCancellationRequested	Integer	Read-only 1 if the user has canceled the update, 0 otherwise.

Exceptions

Name	Description
UserCancelException	<p>This exception should be thrown whenever the user cancelled the update, i.e. when the IsCancellationRequested variable is equal to 1.</p> <pre>if IsCancellationRequested:     raise UserCancelException</pre>
ProcessError	<p>This exception should be thrown if an error occurs during the update.</p> <pre>if "Idle" not in data.decode():     raise ProcessError("Printer is not idle!")</pre>

## 10.2 Code Sample



More code samples and a test application in C# can be found in the following location: C:\Users\Public\Documents\ConfigTool\Samples.

The following code sample shows how to establish a TCP connection to a printer and get the current printer status. If the printer is idle a test print is released.

```
import _socket
from _socket import *

from time import sleep

def Run(portName, deviceId):

    try:
        TCP_PORT = 9100
        BUFFER_SIZE = 1024

        print("Waiting for connection...")
        s = socket(AF_INET, SOCK_STREAM)
        s.connect((portName, TCP_PORT))

        print("Socket connected successfully to " + portName + ":" + str(TCP_PORT))
        sleep(2)

        if IsCancellationRequested:
            raise UserCancelException

        print("Read printer status...")
        message = "\x01SE\x17"
        s.send(bytes(message, "ascii"))
        data = s.recv(BUFFER_SIZE)

        print("Printer status: " + data.decode())
        if "Idle" not in data.decode():
            raise ProcessError("Printer is not idle!")
        sleep(2)

        if IsCancellationRequested:
            raise UserCancelException

        print("Release test print...")
        message = "\x01FF----r\x17"
        s.send(bytes(message, "ascii"))

    finally:
        s.close()
```

## 11 Technical Support

If you encounter any issues installing or using the ConfigTool, before requesting for the assistance of the technical support, take advantage of the following options:

- Update your program.  
Our experience shows that many technical issues can be addressed by a software update.  
You can download the current program version from our website under **Downloads:** [www.configtool.carl-valentin.de](http://www.configtool.carl-valentin.de).
- Search our online resources.  
Our user manual covers all features of the ConfigTool and all known problems.

If you have not found a solution for the problem, you can request direct assistance from Carl Valentin GmbH technical support by one of the following ways:

- Send an email at: [support@carl-valentin.de](mailto:support@carl-valentin.de)
- Call by phone: +49 7720 9712 - 97

# Appendix A - Command Line Parameters

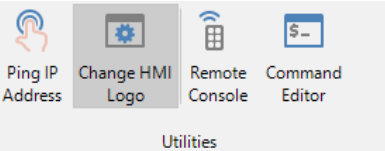
Use the command line parameters below to customize the ConfigTool startup.

## To add a command line parameter

Right-click the program shortcut, and edit the program target path.

Example: "C:\Program Files\Carl Valentin GmbH\ConfigTool\ConfigTool.exe" -hmilogo

## Available parameters

Parameter	Description
-help	Opens the ConfigTool help.
-hmilogo	<div>If this command line parameter is specified, the <a href="#">Change HMI Logo</a> button is visible.</div> <div></div>