ThinPrint® Gateway

TPG60

User Manual

Online Links to important Internet Resources:

Free Guarantee Extension:	http://www.seh-technology.com/guarantee
Support Contacts and Information:	http://www.seh-technology.com/support
Sales Contacts and Information:	http://www.seh-technology.com/sales

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1 General Information

1.1 Purpose

The ThinPrint® technology enables the transmission of compressed and bandwidth-optimized print jobs within a network. Print jobs are compressed using the server component of the .print technology, the so-called **.print Engine**.

The server sends the compressed print data to a device with the implemented **.print Client**. This client then decompresses the print data, transferring it to any printer.

The TPG60 (ThinPrint®Gateway60) contains a completely integrated **ThinPrint® .print client**. This ThinPrint .print client allows you to receive and decompress print data. The TPG60 supports the decoding of print data that was encrypted via SSL. The TPG60 also supports the features **.print AutoConnect** and **.print Connection Service**.

- The feature **.print AutoConnect** allows you to automatically create the required printer objects for the relevant client on the server. **.print AutoConnect** will automatically connect all selected printers on the server with a ThinPrint® port; provided that templates exist.

- The **.print Connection Service** allows you to print to .print clients, that are found behind a firewall, for example. This allows the connection via masked networks as well as the assignment of the relevant print job to the respective end device.

1.2 System Requirements

The TPG60 has been designed for the use in TCP/IP-based networks. A ThinPrint® server must be integrated within this network. The network printers involved must support socket printing. If you want to use the **.print Connection Service**, you need a license.

1.3 Documentation

Structure of the Documentation

The TPG60 documentation consists of the following documents:

Name	Content	Medium
TPG60 User documentation	Detailed description of the TPG60 configuration	PDF (this document)
TPG60 Quick Installation Guide	Information about security, hardware installation and the initial operation procedure.	Printed (Enclosed in the packaging)

The latest documentation as well as software and firmware can be found on the SEH website at www.seh.de.

Conventions

A variety of symbols are used within this document. Their meaning is listed in the following table:

Table 1: Conventions within the documentation

Symbol / Convention	Description
Warning	A warning contains important information that must be heeded. Non-observance may lead to malfunctions.
Note	A notice contains information that should be heeded.
Proceed as follows: *1. Mark …*	The 'hand' symbol marks the beginning of instructions. Individual instructions are set in italics.
Confirmation	The arrow confirms the consequence of an action.
☑ Requirements	Hooks mark requirements that must be met before you can begin the action.
☐ Option	A square marks procedures and options that you can choose.

Symbol / Convention	Description
●	Eye-catchers mark lists.
⇨ 📄	The arrow marks a reference to a page within this document. In the PDF file, you can jump to this page by clicking the symbol.
Bold	Established terms (of buttons or menu items, for example) are set in bold.
`Courier`	Command lines are set in Courier font.
'Proper names'	Proper names are put in inverted commas

1.4 Support Information

If questions remain, please contact our hotline. SEH Computertechnik offers extensive support and user training sessions.

🕐 Monday through Thursday Friday   from 8:00 a.m to 5:45 p.m and from 8:00 a.m. to 4:15 p.m. (CET)

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1.5 Basic Terminology

Hardware Address

The TPG60 is addressable by means of its world-wide unique hardware address. This address is commonly referred to as the MAC or Ethernet address. The manufacturer has defined this address in the hardware of the device. The address consists of 12 hexadecimal numbers. The first six numbers represent the manufacturer, while the last six numbers identify the individual device.
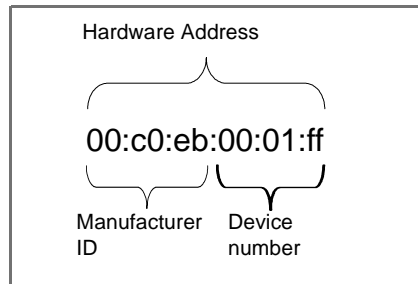
Fig. 1: Example: Hardware Address

The hardware address is found on the housing, the TPG Homepage, the InterCon-NetTool, or the status page.

The use of separators within the hardware address depends on the platform. Note the following conventions when entering the hardware address:

Operating system	Representation	Example
Windows	Hyphen	00-c0-eb-00-01-ff
UNIX	Colon or period	00:c0:eb:00:01:ff or 00.c0.eb.00.01.ff

TPG Default Name

The TPG name is made up of the two letters 'IC' and the device number. The device number consists of the last six numbers of its hardware address.

TPG Default Name

IC0001ff

Device number
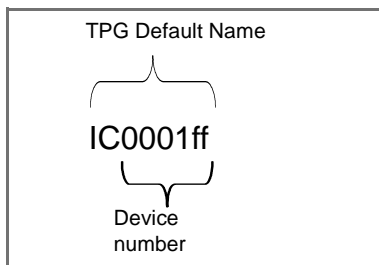
Fig. 2: Example: Default name

The TPG default name is found on the TPG Homepage, the InterCon-NetTool, or the status page.

IP Address

The IP address is the unique address of each node in a network, i.e. an IP address may occur only once on a local network. The system administrator usually assigns the IP address. The address must be saved in the TPG60 to make sure that it can be addressed within the network.

Host Name

The host name is an alias for an IP address. The host name uniquely identifies the TPG60 in the network and makes it easier to remember.

Gateway

Using a gateway, you can address IP addresses from external networks. If you wish to use a gateway, you can configure the relevant parameter via the TPG Homepage or the InterCon-NetTool.

Subnet Mask

With the help of the subnet mask, large networks can be split up into subnetworks. In this case, the user IDs of the IP addresses are assigned to the various subnetworks.

The TPG60 is configured not to use subnetworks by default. If you wish to use a subnetwork, you can configure the relevant parameter via the TPG Homepage or the InterCon-NetTool.

1.6　Safety Regulations

Before starting the initial operation procedure of the TPG60, please note the safety regulations in the Quick Installation Guide.

1.7　First Steps

This section provides all the information that you need to operate the TPG60.

Proceed as follows:

1. *Connect the TPG60 to the network and the mains supply; see Quick Installation Guide.*
2. *Make sure that an IP address is stored in the TPG60; see: 'Saving the IP Address in the TPG60' ⇨ 📄 11.*
3. *Define the ThinPrint® port, the bandwidth, and the printers to which the TPG60 will send print jobs; see: 'ThinPrint® Settings' ⇨ 📄 48.*

↳ The TPG60 is operational.

1.8   Saving the IP Address in the TPG60

TCP/IP network protocols require the storing of the IP address in the TPG60 so that the device can be addressed within the network.

Once the TPG60 is connected to the network, it checks whether an IP address can be obtained from boot protocols (e.g. DHCP). If this is not the case, the TPG60 assigns itself an IP address via ZeroConf.

Different methods for the assignment of the IP address are described in the following.

- 'DHCP' ⇨ 📄11
- 'ZeroConf' ⇨ 📄11
- 'InterCon-NetTool (IP Wizard)' ⇨ 📄12
- 'BOOTP' ⇨ 📄13
- 'ARP/PING' ⇨ 📄13

DHCP

The TPG60 supports DHCP, which means that the IP address of the TPG60 can be assigned dynamically via a DHCP server.

Requirements   ☑ The parameter 'DHCP' has been activated.

After the hardware installation, the TPG60 asks a DHCP server for an IP address by means of a broadcast query. The DHCP server identifies the TPG60 on the basis of its hardware address and sends a data packet to the TPG60.

This data packet contains, among others, the IP address of the TPG60, the default gateway, and the IP address of the DNS server. The data is saved in the TPG60.

ZeroConf

If no IP address can be assigned via boot protocols, the TPG60 assigns itself an IP address via ZeroConf.

Requirements   ☑ The parameter 'ZeroConf' has been activated.

For this purpose, the TPG60 picks an IP address at random from the address range 169.254.0.1 to 169.254.255.254 which is reserved for ZeroConf and sends a query to the network. If this IP address has already been assigned elsewhere in the network, the TPG60 will receive a message. The TPG60 then sends another query with a different IP address. If the IP address is available, it is saved in the TPG60.

If you wish to use an IP address different from the one assigned via ZeroConf, you can save a freely definable IP address in the TPG60 later on.

InterCon-NetTool (IP Wizard)

You can easily enter the desired IP address and save it in the TPG60 using the IIP Wizard of the InterCon-NetTool, see: 'Administration via the InterCon-NetTool' ⇨ 17.

The IP Wizard helps you to configure the TCP/IP parameters, e.g. the IP address. You can choose between the manual configuration and the automatic configuration via boot protocols.

Saving the IP address via the InterCon-NetTool in networks with routers is only possible if the router forwards multicast requests and if network devices are searched for via multicast.

Requirements   ☑ The TPG60 is connected to the network and the mains voltage.

☑ The InterCon-NetTool is installed on your local system.

▣ Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Mark the TPG60 in the print server list.*
   The TPG60 is displayed in the print server list under 'ZeroConf'
   with an IP address from the address range 169.254.0.1 through
   169.254.255.254, which is reserved for ZeroConf.
3. *Select* **Installation – IP Wizard** *from the menu bar.*
4. *Follow the instructions of the Wizard.*
↳ The settings are saved.

BOOTP

The TPG60 supports BOOTP, which means that the IP address of the TPG60 can be assigned via a BOOTP server.

Requirements

☑ The parameter 'BOOTP' has been activated.

If the TPG60 is connected, it asks the BOOTP host for the IP address and the host name. The answer of the BOOTP host server, which contains the IP address, is sent as a data packet and saved in the TPG60.

ARP/PING

By means of the 'arp' and 'ping' commands, you can save the IP address in the TPG60.

If the TPG60 already has an IP address, the 'arp' and 'ping' commands cannot be used to save a new IP address. However, an IP address from the address range 169.254.0.1 to 169.254.255.254 which is reserved for ZeroConf can be overwritten by means of the 'arp' and 'ping' commands.

Use the 'arp' and 'ping' commands to save the IP address if your network has no superordinate management of IP addresses, such as a DNS server.

The 'arp' command is used for editing the ARP table. The 'ping' command transfers a data packet containing the IP address to the hardware address of the TPG60. If the data packet has been successfully sent and received, the TPG60 permanently saves the IP address.

The implementation of the 'arp' and 'ping' command depends on the system used. For more information, please read the relevant section in the documentation of your operating system.

Requirements

☑ The 'ARP/PING' parameter has been activated.

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Edit the ARP table:

Syntax: `arp -s <IP address><hardware address>`

Example: `arp -s 192.168.0.123  00-c0-eb-00-01-ff`

Assign a new IP address to the TPG60:

Syntax: `ping <IP address>`

Example: `ping 192.168.0.123`

The separators within the hardware address that are used in this example correspond to the Windows platform.

2 Administration Methods

You can administer and configure the TPG60 in a number of ways. The following chapter gives you an overview of the various administration options.

You will get information on when to use these methods and which functions these methods support.

☐ Administration via the TPG Homepage

☐ Administration via the InterCon-NetTool

☐ Administration via an FTP Connection

☐ Administration via the TPG60 Status Button

2.1 Administration via the TPG Homepage

The TPG Homepage comprises all features for the administration of the TPG60.

The TPG60 Homepage is stored in your TPG60 and can be started by means of an Internet browser (Internet Explorer 4.x or later, Netscape 3.x or later). When using other browsers, the full functionality of the TPG Homepage cannot be guaranteed.

Requirements

☑ The TPG60 is connected to the network and the mains voltage.

☑ The TPG60 has a valid IP address.

Starting the TPG60 Homepage

Proceed as follows:
1. *Open your browser.*
2. *Enter the IP address of the TPG60 as the URL.*
↳ The **TPG Homepage** appears.
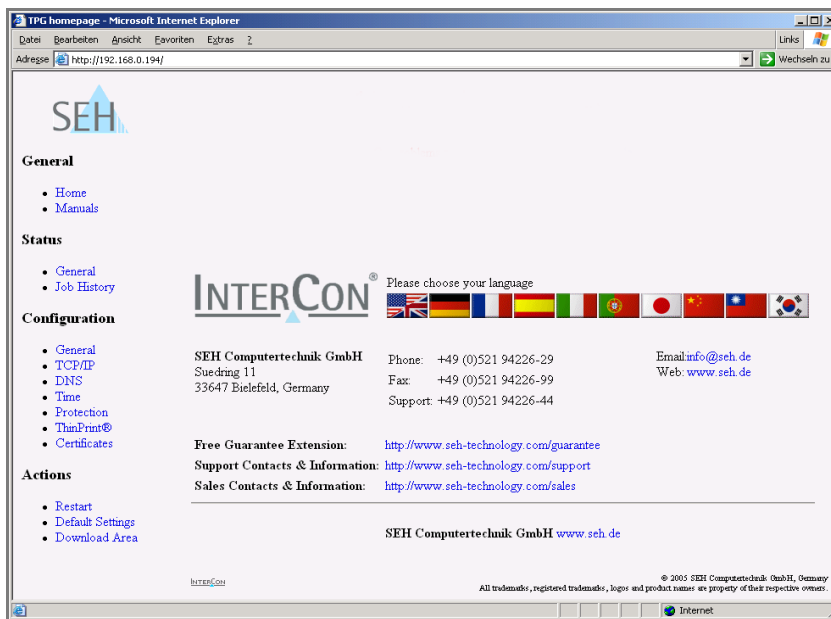
Fig. 3: TPG Homepage – Home

If the TPG Homepage is not displayed, check the proxy settings of your browser.

Administration

The available menu items are located in the navigation bar (left hand). After selecting a menu item (simple mouse click), the corresponding page with its content is displayed.

You can set the language of the TPG Homepage via **General – Home**. Simply select the relevant flag. You will also see contact information of the manufacturer.

Clicking the **General – Manuals** link brings you to the SEH web site. Here, you can download the latest manuals as *.pdf files.

All other menu items are intended for the configuration of the TPG60 and are described in this manual.

2.2 Administration via the InterCon-NetTool

The software InterCon-NetTool has been developed by SEH Computertechnik GmbH for the administration of SEH network devices within a predefined network.

You can configure all features of the TPG60 via the InterCon-NetTool. Detailed information can be found in the corresponding chapters.

The InterCon-NetTool has been designed for use in Windows, Apple Mac OS X, and Linux networks. If you use the InterCon-NetTool in Apple Mac OS X or Linux networks, some functions will notbe available.

Installtion

In order to use the InterCon-NetTool, the program must be installed on a computer with Windows, Linux, or MacOS operating system.

Different installation files are available, depending on the operating system. You will find the InterCon-NetTool installation files on the product CD and on the Internet at www.seh.de.

Proceed as follows:

1. *Start the InterCon-NetTool installation file.*
2. *Select the desired language.*
3. *Follow the installation routine.*

The InterCon-NetTool is installed on the computer.

Start and Exit

To start the program, double-click the InterCon-NetTool icon. The icon is found on the desktop or the start menu (depending on the operating system.)

To exit the program, select **File – Exit** from the menu bar.

Overview

After the InterCon-NetTool has been started, you will see the main dialog with the following elements. The dialog may vary, depending on which elements you have chosen to be shown or hidden.
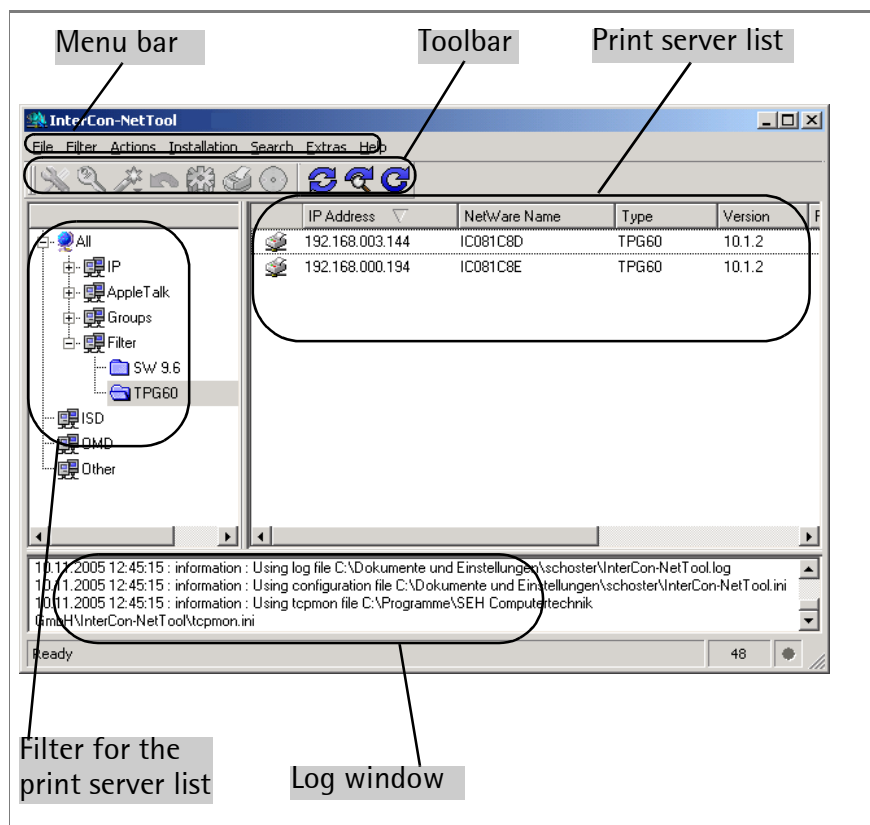
Fig. 4: InterCon-NetTool - Main Dialog

The term 'print server' is often used in the InterCon-NetTool. This term refers to all kinds of network devices, including the TPG60.

Toolbar   A toolbar with icons is available in the InterCon-NetTool. The toolbar can either be shown or hidden.

Proceed as follows:
1. *Start the InterCon-NetTool.*
2. *Select* **Extras – Show Toolbar** *from the menu bar.*
↳ The toolbar is either shown or hidden.

The meaning of the icons are described in the following:

Icon	Name	Description
	Properties	This opens the 'Properties' dialog.*
	Change password	This opens the 'Change password' dialog.*
	Installation	This starts a Wizard. A wizard helps you to configure certain parameters.
	Restart	This opens the 'Restart' dialog.*
	Default settings	This opens the 'Load default settings' dialog.*
	Print status page	This opens the 'Print status page' dialog.*
	Firmware Update	This opens the 'Firmware Update' dialog.*
	Refresh	This refreshes the print server list.
	Find New	This adds newly connected network devices to the print server list.
	Rebuild	This creates a new print server list.

*The button is active if a device was marked in the list.

Print Server List   All connected devices are shown in a list in the right-hand section of the main dialog of the InterCon-NetTool. This section is referred to as the print server list.

You can configure the information displayed in the print server list according to your needs. Devices that are not available in the network, appear dimmed.

You can select various filters in the left-hand section of the main dialog. Filters determine which devices are shown in the print server list. The filters can be configured via **Filter**.

Logging

Logging means that actions carried out by the user or the InterCon-NetTool will be registered automatically and saved in a log file. The contents of the log file can be displayed in a log window.

The log file can either be shown or hidden. If logging is disabled, the log window will not be displayed. The log window is not available if logging is disabled. In this case the menu item **Show Log File** appears dimmed.

Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Select* **Extras – Show Log File** *from the menu bar.*

The log window is either shown or hidden.

Even if the log window is hidden, the registration of log information in a log file continues.

You can change the logging settings.

Proceed as follows:

1. *Select* **Extras – Settings** *from the menu bar.*
   The **Settings** *dialog appears.*
2. *Select the category* **Logging Options**.
3. *Configure the desired settings.*
4. *Click* **OK** *to confirm.*

The settings are saved.

If the log file is larger than the preset value, the log file is reduced to half the records. The oldest records will be deleted in this process (first-in, first-out method).

Configuring TPG Parameters

TPG60 parameters can be configured easily and conveniently via the InterCon-NetTool.

Commands can be selected via the toolbar, the shortcut menu (right mouse button), shortcut keys, or the menu bar. This manual describes the selection via the menu bar.

Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Double-click the TPG60 in the print server list.*
   The **Properties** *dialog appears.*
3. *Select the desired menu item from the navigation bar in the* **Configuration** *category.*
4. *Change the desired parameters.*
5. *Click* **OK** *to confirm.*

The settings are saved.

By clicking the '?' icon (on the top right of the dialog) and by pointing at the relevant parameter, you will get an explanation of the parameter. Detailed information can be found in the corresponding chapters of this manual.
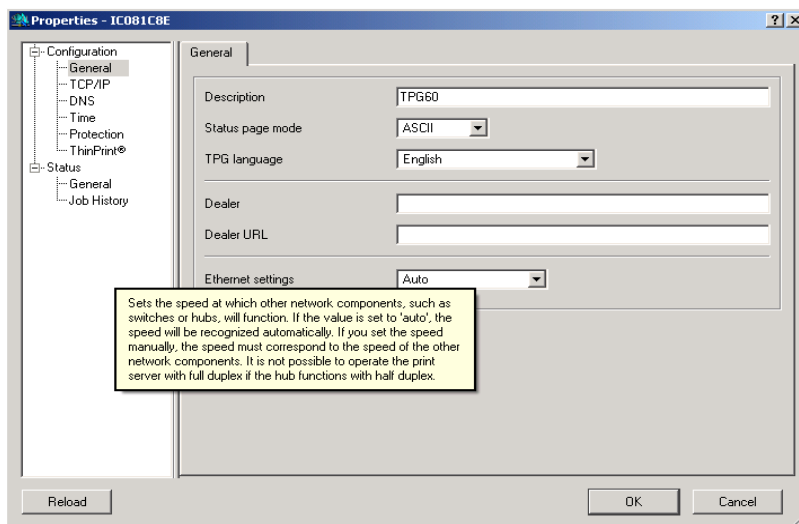
Fig. 5: InterCon-NetTool - Properties

2.3 Administration via an FTP Connection

The File Transfer Protocol (FTP) allows the exchange of data between a server and an FTP client in TCP/IP networks. An FTP connection allows you to

- configure TPG60 parameters; see:'Configuring Parameters via an FTP Connection' ⇨ 📄32

- reset TPG60 parameters; see:'Resetting Parameters via an FTP Connection' ⇨ 📄38

- perform a firmware update; see:'Firmware Update' ⇨ 📄71

2.4   Administration via the TPG60 Status Button

At the rear panel of the TPG60 you will find the network connector, LEDs, the status button, and the power supply connector. These components are described in the *Quick Installation Guide*.

The status button allows you to

- print a status page; see:'Printing the Status Page via the TPG60 Status Button' ⇨ 🗎29

- print a service page; see:'Printing the Service Page via the TPG60 Status Button' ⇨ 🗎30

- reset the TPG60 parameters to their default settings;
  see:'Resetting Parameters via the TPG60 Status Button' ⇨ 🗎38

3 Status Information

You can get status information at any time. This chapter describes which status information is available and how to display and read this information.

What information do you need?

- 'How to Display Status Information?' ⇨ 📄24
- 'How to Display the Job History?' ⇨ 📄25
- 'How to Print a Status Page?' ⇨ 📄26

3.1 How to Display Status Information?

TPG60 status information can be displayed in many ways.

What do you want to do?

☐ 'Obtaining Information via the TPG Homepage' ⇨ 📄24
☐ 'Obtaining Information via the InterCon-NetTool' ⇨ 📄24

Obtaining Information via the TPG Homepage

📋 Proceed as follows:
1. *Start the TPG Homepage.*
2. *Select* **Status – General***.*
↳ The status information is shown.

Obtaining Information via the InterCon-NetTool

📋 Proceed as follows:
1. *Start the InterCon-NetTool.*
2. *Double-click the TPG60 in the print server list.*
   The **Properties** *dialog appears.*
3. *Select* **Status – General** *from the navigation bar.*
↳ The status information is shown.

The **General** page contains status information, such as the name of the TPG60, the hardware address, and the serial and version numbers.

The text which you previously defined under **Configuration – General** will now appear under **Description**. The description is freely definable.

3.2 How to Display the Job History?

You can get information about the print jobs that have been sent to the TPG60. The print jobs are registered and shown in the Job History.

A maximum of 64 print jobs are displayed. The first-in, first-out method is applied from the 65th print job onwards. The saved print jobs will be deleted when the TPG60 is turned off or reset. The print jobs will not be deleted when the TPG60 is restarted.

What do you want to do?

☐ 'Displaying the Job History via the TPG Homepage' ⇨ 📄25

☐ 'Displaying the Job History via the InterCon-NetTool' ⇨ 📄25

Displaying the Job History via the TPG Homepage

📁 Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Status – Job History**.
↳ The Job History is displayed.

Displaying the Job History via the InterCon-NetTool

📁 Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Double-click the TPG60 in the print server list.*
   The **Properties** *dialog appears.*
3. *Select* **Status – Job History** *from the navigation bar.*
↳ The Job History is displayed.

The following information is shown in the Job History:

- 'Status' indicates the status of the print connection. The following statuses are possible:

  'Completed' means that the TPG60 has completely forwarded the print job to the printer.

  'Pending' means that the print job has been accepted by the TPG60 but that the data transfer has not yet started.

  'Processing' means that the print job has been transferred from the TPG60 to the printer.

  'Processing stopped' means that the data transfer to the printer has been stopped. This can occur if, for example, the printer ran out of paper. If the printer error is fixed, data transfer will be resumed.

  'Aborted' means that the print job has been aborted. This can occur if, for example, the TPG60 has been restarted while the print job was processed.

- 'Protocol' indicates the protocol which has been used for transferring the print data.

- 'Name' displays the name of the print job.

- 'Sender' displays the IP address of the host.

- 'Size' indicates the size (in KB) of the print job. The minimal size that is displayed is 1 KB.

- 'Printer ID' specifies the identification number and the name of the printer that spooled the print job.

- 'Creation time' specifies the time at which the print job was sent to the TPG60.

- 'Duration' indicates the time needed by the TPG60 for processing the print job. The minimal duration that is displayed is 1 second.

3.3   How to Print a Status Page?

The status page contains all the important information about the TPG60. Before a status page can be printed, you need to specify the printer and the data format of the status page. The data formats ASCII, PostScript, and DATAMAX are available. The default setting is the printer with the ID 1.

What do you want to do?

- ☐ 'Specifying the Data Format and the Printer via the TPG Homepage' ⇨ 🖺27

☐ 'Specifying the Data Format and the Printer via the InterCon–NetTool' ⇨🗎27

☐ 'Printing the Status Page via the InterCon-NetTool' ⇨🗎28

☐ 'Printing the Status Page via an FTP Connection' ⇨🗎29

☐ 'Printing the Status Page via the TPG60 Status Button' ⇨🗎29

Specifying the Data Format and the Printer via the TPG Homepage

🗂 Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Configuration – General***.*
3. *Select the desired data format from the* **Status page mode** *list.*
4. *Select the desired printer ID from the* **Status Page Printer** *list.*
5. *Click* **Save** *to confirm.*
↳ The settings are saved.

Specifying the Data Format and the Printer via the InterCon–NetTool

🗂 Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Double-click the TPG60 in the print server list.*
   The **Properties** *dialog appears.*
3. *Select* **Configuration – General** *from the navigation bar.*
4. *Select the desired data format from the* **Status page mode** *list.*
5. *Select* **Configuration – ThinPrint®** *from the navigation bar.*
6. *Tick* **Status Page Printer** *for the desired printer.*
7. *Click* **OK** *to confirm.*
↳ The settings are saved.

Printing the Status Page via the InterCon-NetTool

📠 Proceed as follows:

1. *Start the InterCon-NetTool.*

2. *Mark the TPG60 in the print server list.*

3. *Select* **Actions – Print Status Page** *from the menu bar.*

4. *Click* **Finish**.

☞ The status page is printed.

```
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             : support@seh.de
SEH Homepage : www.seh.de


Status page TPG60
--------------------------------------------------------------

General Status
   TPG model             :   TPG60
   Serial number         :   17520050200007
   Software version      :   10.1.43 (developer version)
   Hardware version      :   1.0
   Hardware address      :   00:c0:eb:08:62:e6
   Network               :   100BaseTX FULL (negotiated)
   Date and time         :   2005-11-08T09:44:13+0100
   Service information   :   /260/2/653/1/

TCP/IP
   IP address            :   192.168.000.194 (assigned via SNMP)
   Subnet mask           :   255.255.255.000
   Gateway               :   192.168.000.004
   ARP/PING              :   ON
   BOOTP                 :   OFF
   DHCP                  :   OFF
   ZeroConf              :   ON
   Bonjour               :   ON
   Bonjour Name          :   IC0862E6_TPG60

ThinPrint
   ThinPrint Port        :   4000
   Bandwidth             :   ON
   Bandwidth[bits/s]     :   25600
   Connection Service    :   ON (connection rejected)
   Connection Server     :   192.168.015.200
   Connection Server Port:   4001
   Client ID             :   98
   Authentication Key    :   110
```

Fig. 6: TPG60 status button

Printing the Status Page via an FTP Connection

Using an FTP connection, you can download a status page to your local computer and print it.

📋 Proceed as follows:

1. *Switch to the directory in which you wish to save the file.*
2. *Open an FTP connection to the TPG60:*
   Syntax: `ftp <IP Address>`
   Example: `ftp 192.168.0.123`
3. *Enter an arbitrary user name.*
4. *Enter either the TPG60 password or press ENTER if no password has been assigned.*
5. *Transfer the status page from the TPG60 to your local computer:*
   Status page: `get statuspage`
6. *Close the FTP connection:*
   `quit`
7. *Open the file using any text editor.*
8. *Print the file.*

Printing the Status Page via the TPG60 Status Button

Using the status button of the TPG60, you can print a status page.

📋 Proceed as follows:

1. *Press the status button for a short time.*
↳ The status page is printed.

4 Parameter

The TPG60 is controlled via parameters. The chapter 'Parameter List' ⇨🗎78 describes the available parameters and their meaning.

This chapter describes how to display and configure the parameters.

- 'How to Print Parameters? (Service Page)' ⇨🗎30.
- 'How to Configure Parameters?' ⇨🗎32.
- 'How to Configure and Save Parameters using the 'Parameters' File?' ⇨🗎33.
- 'How to Reset Parameters to their Default Settings?' ⇨🗎36.

4.1 How to Print Parameters? (Service Page)

You can print a complete list of all TPG60 parameters on a service page. The service page is available in English.

☐ 'Printing the Service Page via the TPG60 Status Button' ⇨🗎30

☐ 'Printing the Service Page via an FTP Connection' ⇨🗎31

Printing the Service Page via the TPG60 Status Button

Using the status button of the TPG60, you can print a service page.

🗂 Proceed as follows:

1. *Keep the status button pressed for five seconds.*

↳ The status page is printed.

Printing the Service Page via an FTP Connection

Using an FTP connection, you can download a service page to your local computer and print it.

Proceed as follows:

1. *Switch to the directory in which you wish to save the file.*
2. *Open an FTP connection to the TPG60:*
    Syntax: `ftp <IP Address>`
    Example: `ftp 192.168.0.123`
3. *Enter an arbitrary user name.*
4. *Enter either the TPG60 password or press ENTER if no password has been assigned.*
5. *Transfer the service page from the TPG60 to your local computer:*
    Service page: `get servicepage`
6. *Close the FTP connection:*
    `quit`
7. *Open the file using any text editor.*
8. *Print the file.*

4.2 How to Configure Parameters?

TPG60 parameters can be configured in many ways.

Configuring Parameters via the TPG Homepage

All TPG60 parameters can be configured via the TPG Homepage; see: 'Administration via the TPG Homepage' ⇨ 📄15.

Configuring Parameters via the InterCon–NetTool

All TPG60 parameters can be configured via the InterCon-NetTool; see: 'Configuring TPG Parameters' ⇨ 📄21.

Configuring Parameters via an FTP Connection

You can configure all TPG60 parameters via FTP. To this purpose, you must download the 'parameters' file to your local computer via FTP and then edit it.

📁 Proceed as follows:

1. *Switch to the directory in which you wish to save the file.*
2. *Open an FTP connection to the TPG60:*
    Syntax: `ftp <IP Address>`
    Example: `ftp 192.168.0.123`
3. *Enter an arbitrary user name.*
4. *Enter either the TPG60 password or press ENTER if no password has been assigned.*
5. *Transfer the 'parameters' file from the TPG60 to your local computer:*
    `get parameters`
6. *Edit the file using any text editor; see: 'Parameter List' ⇨ 📄78.*
7. *Send the file back to the TPG60:*
    `put parameters`
8. *Close the FTP connection:*
    `quit`

4.3 How to Configure and Save Parameters using the 'Parameters' File?

All TPG60 settings (with the exception of of passwords) are saved in the 'parameters' file. You can copy the 'parameters' file to your client or any other system and edit the TPG60 parameters using a text editor.

Afterwards, the configured file can be downloaded to one or more TPG60. The parameters included in the file will be taken over by the device.

You can also save the 'parameters' file as backup copy on your local client. This allows you to get back to a stable configuration status at any time.

What do you want to do?

☐ 'Saving the 'Parameters' File to the Client via the InterCon-NetTool' ⇨📄33

☐ 'Editing the 'Parameters' File using a Text Editor' ⇨📄34

☐ 'Downloading the 'Parameters' File to one or more TPG60 using the InterCon-NetTool' ⇨📄35

☐ 'Downloading the 'Parameters' File to the TPG60 using the TPG Homepage' ⇨📄36

Saving the 'Parameters' File to the Client via the InterCon-NetTool

The 'parameters' file can be copied to any system using the InterCon-NetTool.

📥 Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Mark the TPG60 in the print server list.*
3. *Select* **Actions – Download 'Parameters' File** *from the menu bar. The* **Parameter Download** *dialog appears, see: figure 7* ⇨📄*34.*
4. *Highlight the TPG60.*
5. *Click* **Get 'parameters' file**. *The* **Save As** *dialog appears.*
6. *Enter the file name and path.*

7. *Click **Save**.*

✍ The 'parameters' file is saved in your client.
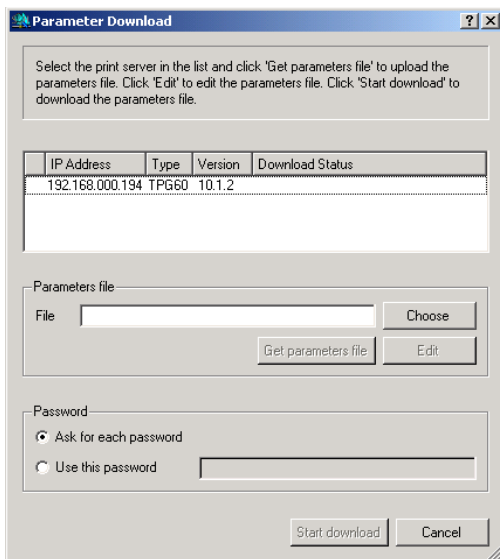
Fig. 7: InterCon-NetTool - Parameter Download

Editing the 'Parameters' File using a Text Editor

You can edit the 'parameters' file using any text editor. Use a text editor that is installed on your computer or the text editor that is provided by the InterCon-NetTool.

📂 Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Select the TPG60 in the print server list.*
3. *Select **Actions – Download 'Parameters' File** from the menu bar.*
   *The **Parameter Download** dialog appears.*
4. *Click **Choose**.*
   *The **Parameter Download** dialog appears.*
5. *Specify the 'parameters' file.*
6. *Click **Open**.*
7. *Click **Edit**.*
   A text editor with the 'parametrers' file will be opened.

---

8. *Edit the file; see: 'Parameter List'* ⇨ 🖹 *78.*

9. *Save the file.*

Downloading the 'Parameters' File to one or more TPG60 using the InterCon-NetTool

You can configure one or more TPG60 using the 'parameters' file. For this purpose, the file is downloaded to the TPG60.

When downloading the 'parameters' file to several TPG60, the parameter default settings 'IP address,' and 'Host name,' of the respective TPG60 will be maintained. All other settings will be overwritten by the ones in the new 'parameters' file.

Proceed as follows:

1. *Start the InterCon-NetTool.*

2. *Select one or more TPG60 from the print server list.*

3. *Select* **Actions – Download 'Parameters' File** *from the menu bar.*

4. *Click* **Choose***. The* **Parameter Download** *dialog appears, see: figure 7* ⇨ 🖹 *34.*

5. *Specify the 'parameters' file.*

6. *Click* **Open***.*

7. *Decide on the password option:*
   If the TPG60 displayed in the list are not password-protected or protected by different passwords, activate **Ask for each password***.*
   If the TPG60 are protected by the same password, activate **Use this password** *and enter the password.*

8. *Click* **Start download***.*

By clicking 'Start download', the selected file will be downloaded to all TPG60 displayed in the list. If you do not want to download the file to all TPG60, you must close the window and only select the desired TPG60 from the print server list (see step 2).

9. *Confirm the security query.*

10. *Enter the password(s), if necessary.*

✑ The 'parameters' file will be downloaded to the TPG60. The TPG60 parameters will be configured in accordance with the file.

Downloading the 'Parameters' File to the TPG60 using the TPG Homepage

The TPG Homepage can be used to configure the TPG60 via the 'parameters' file. All previous TPG60 settings will be overwritten by the 'parameters' file.

Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Actions – Download Area***.*
3. *Select* **Parameter Download***.*
4. *Click* **Browse....**
5. *Specify the 'parameters' file.*
6. *Click* **Open***.*
7. *Click* **Download***.*
8. *Enter the TPG60 password, if necessary.*

✑ The 'parameters' file will be downloaded to the TPG60. The TPG60 parameters will be configured in accordance with the file.

4.4 How to Reset Parameters to their Default Settings?

You can reset all TPG60 parameters to their default settings. All previously configured parameters will be deleted in this process. Installed certificates will not be deleted.

Since the IP address of the TPG60 will be reset as well, the TPG Homepage cannot be started or displayed.

You must reset the parameters, for example, if you have changed the location of the TPG60 and if you want to use the TPG60 in a different network. Before this change of location, you should reset

the parameters to their default settings to install the TPG60 in a different network.

If the TPG60 is protected by a password, the password has to be entered before resetting the parameters. Only by using the status button on the operating panel of the TPG60 can the parameters be reset without entering the password.

What do you want to do?

☐ 'Resetting Parameters via the TPG Homepage' ⇨ 📄37

☐ 'Resetting Parameters via the InterCon-NetTool' ⇨ 📄37

☐ 'Resetting Parameters via an FTP Connection' ⇨ 📄38

☐ 'Resetting Parameters via the TPG60 Status Button' ⇨ 📄38

Resetting Parameters via the TPG Homepage

Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Actions – Default Settings**.
↳ The parameters are reset.

Resetting Parameters via the InterCon-NetTool

Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Mark the TPG60 in the print server list.*
3. *Select* **Actions – Default Settings** *from the menu bar.*
4. *Click* **Finish**.
↳ The parameters are reset.

Resetting Parameters via an FTP Connection

📋 Proceed as follows:

1. *Open an FTP connection to the TPG60:*
   Syntax: `ftp <IP Address>`
   Example: `ftp 192.168.0.123`
2. *Enter the password of the TPG60, if applicable, or press ENTER.*
3. *Reset the parameters:*
   `quote SITE RESET`
4. *Close the FTP connection:*
   `quit`
5. *Disconnect the power socket on the TPG60 for a moment.*

✍ The parameters are reset.

Resetting Parameters via the TPG60 Status Button

📋 Proceed as follows:

1. *Disconnect the power socket on the TPG60.*
2. *Keep the status button pressed.*
3. *Reconnect the power socket on the TPG60.*
   Both LEDs blink rapidly.
4. *Release the status button within five seconds.*
   The LEDs blink alternately .
5. *Press the status button again.*
   The parameters are reset. The yellow LED then blinks regularly.
6. *Disconnect the power socket on the TPG60 for a moment.*

✍ The parameters are reset.

5 Network and Device Settings

This chapter describes the various network and device settings of the TPG60.

- 'How to Configure the DNS?' ⇨📄39
- 'How to Configure TCP/IP Parameters?' ⇨📄41
- 'How to Configure the Device Time?' ⇨📄42
- 'How to Configure the Language of the Device?' ⇨📄44
- 'How to Adapt the Speed to the Network Components?' ⇨📄45
- 'How to Restart the TPG60?' ⇨📄46
- 'How to Determine a Description?' ⇨📄47

5.1 How to Configure the DNS?

DNS is a service that translates domain names into IP addresses. Using DNS, names can be assigned to IP addresses and vice versa. If a DNS server is available in your network, you can use DNS for your TPG60.

If you use a domain name during the configuration process, you must first enable and configure DNS. DNS is used for the configuration of the time server, for example.

- ☐ 'Configuring DNS via the TPG Homepage' ⇨📄40
- ☐ 'Configuring DNS via the InterCon-NetTool' ⇨📄40

Configuring DNS via the TPG Homepage

Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Configuration – DNS**.
3. *Configure the DNS parameters; see: table 2 ⇨▤40.*
4. *Click* **Save** *to confirm.*

↳ The settings are saved.

Configuring DNS via the InterCon-NetTool

Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Double-click the TPG60 in the print server list.*
   The **Properties** *dialog appears.*
3. *Select* **Configuration – DNS** *from the navigation bar.*
4. *Configure the DNS parameters; see: table 2 ⇨▤40.*
5. *Click* **OK** *to confirm.*

↳ The settings are saved.

Table 2: DNS Parameters

Parameter	Description
DNS	Enables/disables DNS.
Domain name	Domain name of an existing DNS server (e.g. company.de)
Primary DNS server	IP address of the primary DNS server (e.g. 192.168.0.21)
Secondary DNS server	IP address of the secondary DNS server. The secondary DNS server is used if the primary DNS server is not available.

5.2 How to Configure TCP/IP Parameters?

The TCP/IP (Transmission Control Protocol over Internet Protocol) is devided into two areas. The Internet Protocol (IP) is used for the fragmentation and addressing of data and transfers the data from the sender to the recipient. TheTransmission Control Protocol (TCP) guarantees reliable and in-order delivery of sender to receiver data. Upon receipt of one or more packets, the receiver returns an acknowledgement.

You can define various parameters for an ideal integration of your TPG60 into the TCP/IP network.

What do you want to do?

☐ 'Configuring TCP/IP Parameters via the TPG Homepage' ⇨📄41

☐ 'Configuring TCP/IP Parameters via the InterCon-NetTool' ⇨📄41

Configuring TCP/IP Parameters via the TPG Homepage

📑 Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Configuration – TCP/IP**.
3. *Configure the TCP/IP parameters; see: table 3* ⇨📄*42.*
4. *Click* **Save** *to confirm.*
↳ The settings are saved.

Configuring TCP/IP Parameters via the InterCon–NetTool

📑 Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Double-click the TPG60 in the print server list.*
   The **Properties** *dialog appears.*
3. *Select* **Configuration – TCP/IP** *from the navigation bar.*
4. *Configure the TCP/IP parameters; see: table 3* ⇨📄*42.*
5. *Click* **OK** *to confirm.*
↳ The settings are saved.

Table 3: TCP/IP Parameters

Parameter	Description
IP address	IP address of the TPG60
Subnet mask	Subnet mask of the TPG60
Gateway	IP address of the gateway
Multicast router as gateway	If this parameter has been enabled, the address of the found multicast router will be entered automatically as gateway address. If disabled, the gateway address has to be entered manually.
Host name	Host name of the TPG60
Contact person	Freely definable description
Location	Freely definable description
DHCP BOOTP ARP/PING ZeroConf	Enables or disables the protocols DHCP, BOOTP, ARP/PING, and ZeroConf. Protocols offer various possibilities to save the IP address in the TPG60. (See 'Saving the IP Address in the TPG60' ⇨ 📄11.) Please disable all options that you do not need.
Bonjour	Bonjour allows the automatic recognition of computers, devices, and network services in TCP/IP-based networks.

5.3   How to Configure the Device Time?

You can set the time of the TPG60 via a time server in the network. For this purpose, define a time zone and a SNTP server via its IP address or domain name.

The time zone is used to equalize the difference between the Greenwich Mean Time or UTC (Universal Time Coordinate) of the time server and the local time.

If the time server is activated, all print jobs get a time stamp. Date and time are then displayed under **Job History**.

Configuring the Device Time via the TPG Homepage

🗁 Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Configuration – Time**.
3. *Tick* **SNTP**.
4. *Enter the IP address or the domain name of the time server into the* **Time server** *box. (The domain name can only be used if DNS is enabled on the device and if a DNS server was specified).*
5. *Select the time difference from the* **Time zone** *list.*
6. *Click* **Save** *to confirm.*
↳ The settings are saved.

Configuring the Device Time via the InterCon-NetTool

🗁 Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Double-click the TPG60 in the print server list.*
   The **Properties** *dialog appears.*
3. *Select* **Configuration – Time** *from the navigation bar.*
4. *Tick* **SNTP**.
5. *Enter the IP address or the domain name of the time server into the* **Time server** *box. (The domain name can only be used if DNS is enabled on the device and if a DNS server was specified).*
6. *Select the time difference from the* **Time zone** *list.*
7. *Click* **OK** *to confirm.*
↳ The settings are saved.

5.4 How to Configure the Language of the Device?

You can define the language of the device. The TPG60 supports the following languages:

English, German, French, Spanish, Italian, Portuguese, Japanese, Korean, simplified and traditional Chinese.

The language of the device is displayed on the TPG Homepage and in the status and configuration information (see status and service page).

You must restart the TPG Homepage for the current language settings to take effect. The language of the TPG Homepage can also be defined separately; see: 'Administration via the TPG Homepage' ⇨ 📄15.

What do you want to do?

☐ 'Configuring the Language of the Device via the TPG Homepage' ⇨ 📄44

☐ 'Configuring the Language of the Device via the InterCon-NetTool' ⇨ 📄44

Configuring the Language of the Device via the TPG Homepage

Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Configuration – General**.
3. *Select the desired language from the* **TPG language** *list.*
4. *Click* **Save** *to confirm.*

↳ The settings are saved.

Configuring the Language of the Device via the InterCon-NetTool

Proceed as follows:

1. *Start the InterCon-NetTool.*

2. *Double-click the TPG60 in the print server list.*
   The **Properties** *dialog appears.*
3. *Select* **Configuration – General** *from the navigation bar.*
4. *Select the desired language from the* **TPG language** *list.*
5. *Click* **OK** *to confirm.*

↳ The settings are saved.

5.5 How to Adapt the Speed to the Network Components?

You can adapt the speed of the TPG60 to other network components, such as switches or hubs.

The 'Auto' mode is preset. The speed is identified automatically and adapted to the other network components.

If you set the speed manually, the speed must correspond to the speed of the other network components. It is not possible to operate the TPG60 with full duplex if the hub is operated with half duplex.

Adapting the Speed via the TPG Homepage

📁 Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Configuration – General**.
3. *Select the desired setting from the* **Ethernet settings** *list.*
4. *Click* **Save** *to confirm.*

↳ The setting is saved.

Adapting the Speed via the InterCon-NetTool

📋 Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Double-click the TPG60 in the print server list.*
   The **Properties** *dialog appears.*
3. *Select* **Configuration – General** *from the navigation bar.*
4. *Select the desired setting from the* **Ethernet settings** *list.*
5. *Click* **OK** *to confirm.*

↳ The setting is saved.

5.6   How to Restart the TPG60?

Some situations make it necessary to restart the TPG60.

☐ 'Restarting the TPG60 via the TPG Homepage' ⇨ 📄46

☐ 'Restarting the TPG60 via the InterCon-NetTool' ⇨ 📄46

Restarting the TPG60 via the TPG Homepage

📋 Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Actions – Restart**.
3. *Click* **Restart TPG**.

↳ The TPG60 is restarted.

Restarting the TPG60 via the InterCon-NetTool

📋 Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Select the TPG60 in the print server list.*
3. *Select* **Actions – Restart** *from the menu bar.*
   The **Restart print server** *dialog appears.*
4. *Click* **Finish**.

↳ The TPG60 is restarted.

5.7 How to Determine a Description?

You can assign freely definable descriptions to the TPG60. This gives you a better overview of the devices available in the network.

Determining Descriptions via the TPG Homepage

📋 Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Configuration – General***.*
3. *Enter freely definable names for* **Description***,* **Dealer***, and* **Dealer URL***.*
4. *Click* **Save** *to confirm.*

↳ The data is saved.

Determining Descriptions via the InterCon-NetTool

📋 Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Double-click the TPG60 in the print server list.*
   The **Properties** *dialog appears.*
3. *Select* **Configuration – General** *from the navigation bar.*
4. *Enter freely definable names for* **Description***,* **Dealer***, and* **Dealer URL***.*
5. *Click* **OK** *to confirm.*

↳ The data is saved.

6 ThinPrint® Settings

In order for the TPG60 to communicate with the ThinPrint® server (.print Engine) via a port and to receive print jobs, you must adapt various parameters. You also have to integrate the network printers to which you want to forward print jobs.

6.1   How to Define the ThinPrint® Port?

In ThinPrint® environments, printing is done to a TCP/IP port via a socket connection. The port number of the TPG60 must be identical to the port number that was defined for the ThinPrint® server.

Port 4000 is preset. You can change the port number, if necessary.

What do you want to do?

Defining the ThinPrint® Port via the TPG Homepage

📠 Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Configuration – ThinPrint®***.*
3. *Enter the port number into the* **ThinPrint® port** *box.*
4. *Click* **Save** *to confirm.*
↳ The setting is saved.

Defining the ThinPrint® Port via the InterCon-NetTool

📋 Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Double-click the TPG60 in the print server list.*
   The **Properties** *dialog appears.*
3. *Select* **Configuration – ThinPrint®** *from the navigation bar.*
4. *Enter the port number into the* **ThinPrint® port** *box.*

✏ The setting is saved.

6.2 How to Define the Bandwidth?

Bandwidth describes the capacity of a data connection. The bandwidth of the TPG60 is indicated in bit/second (bit/s).

The bandwidth that is needed for print jobs can be limited to a freely definable value for each ThinPrint® port (server side). You can further decrease the bandwidth limit on the port of the TPG60 (client side).

Defining a value which is higher than the defined value (server side) will have no effect. In this case, the pre-defined value will be applied.

What do you want to do?

☐ 'Defining the Bandwidth via the TPG Homepage' ⇨ 📄49

☐ 'Defining the Bandwidth via the InterCon-NetTool' ⇨ 📄50

Defining the Bandwidth via the TPG Homepage

📋 Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Configuration – ThinPrint®**.
3. *Tick* **Bandwidth**.
4. *Enter the desired bandwidth.*
5. *Click* **Save** *to confirm.*

↳ The setting is saved.

Defining the Bandwidth via the InterCon-NetTool

📋 Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Double-click the TPG60 in the print server list.*
   The **Properties** *dialog appears.*
3. *Select* **Configuration – ThinPrint®** *from the navigation bar.*
4. *Tick* **Bandwidth**.
5. *Enter the desired bandwidth.*
6. *Click* **OK** *to confirm.*

↳ The setting is saved.

6.3 How to Define Printers?

Print jobs are sent from the ThinPrint® server to the TPG60. After the decompression of the print jobs, the TPG60 forwards the data to the printers.

The print jobs are assigned via a printer ID. Up to six network printers can be connected to the ThinPrint® port which is defined via the TPG60.

☐ 'Integrating Printers via the TPG Homepage' ⇨ 📄50

☐ 'Integrating Printers via the InterCon-NetTool' ⇨ 📄51

Integrating Printers via the TPG Homepage

📋 Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Configuration – ThinPrint®**.
3. *Enter the relevant data; see: table 4* ⇨ 📄*51.*
4. *Click* **Save** *to confirm.*

↳ The setting is saved.

Integrating Printers via the InterCon–NetTool

📂 Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Double-click the TPG60 in the print server list.*
   The **Properties** *dialog appears.*
3. *Select* **Configuration – ThinPrint®** *from the navigation bar.*
4. *Enter the relevant data; see: table 4* ⇨ 📄 *51.*
5. *Click* **OK** *to confirm.*

↳ The settings are saved.

Table 4: Printer Parameters

Parameter	Description
ID	A printer is identified by its printer ID.
Printer	The printer name is a description and is used to distinguish the printers. The printer can only use the .print AutoConnect feature if a printer name was defined.
Class	Printers with compatible drivers can be arranged in one class. You can also define a printer class if you want to use the .print AutoConnect feature.
Remote address	IP address or host name of the printer (A host name can only be used if DNS was configured beforehand.)
Port	Port number for socket printing (default = port nummer 9100)
Status page printer	Indicates which printer is used to print status pages. The status page printer can be specified via Configuration – General on the TPG Homepage. (default = printer ID 1)

6.4 How to Use the ThinPrint® Connection Service?

The .print Connection Service sends print jobs via TCP/IP to .print clients (i.e. the TPG60) in masked networks (NAT), for example.

The Connection Service manages the entire communication between the ThinPrint® server and the client. This allows the connection via masked networks as well as the assignment of the relevant print job to the respective end device.

To use this service, you must prepare the TPG60. For each end device that uses the Connection Service, you must store the client ID and an authentication key in the database of the Connection Service. You must also set these two values on the TPG60.

Please note that you need a ThinPrint® license for each client ID.

☐ 'Configuring the Connection Service via the TPG Homepage'
⇨ 📄52

☐ 'Configuring the Connection Service via the InterCon-NetTool'
⇨ 📄52

Configuring the Connection Service via the TPG Homepage

👉 Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Configuration – ThinPrint®***.*
3. *Tick* **Connection Service***.*
4. *Enter the relevant data; see: table 5* ⇨ 📄*53.*
5. *Click* **Save** *to confirm.*
↳ The settings are saved.

Configuring the Connection Service via the InterCon–NetTool

👉 Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Double-click the TPG60 in the print server list.*
The **Properties** *dialog appears.*
3. *Select* **Configuration – ThinPrint®** *from the navigation bar.*
4. *Select the* **Connection Service** *tab.*
5. *Tick* **Connection Service***.*
6. *Enter the relevant data; see: table 5* ⇨ 📄*53.*
7. *Click* **OK** *to confirm.*

✳ The settings are saved.

Table 5: Connection Service Parameter

Parameter	Description
Connection Service	Enables/disables the .print Connection Service
Connection Server	IP address of the server on which the Connection Service is installed.
Port	Port number used by the TPG60 to communicate with the Connection Service (default = 4001)
Client ID	Client ID as stored in the database of the Connection Service. The client ID is needed by the Connection Service to forward print jobs to the TPG60.
Authentication key	Authentication key as stored in the database of the Connection Service.
Keep alive	Interval (in seconds) for refreshing the connection to the Connection Service. The value has to be lower or equal than the 'KeepAliveTO' parameter of the .print Connection Service (server side). (allowed entry: 30 - 180 | default = 60)
Connection retry	Interval (in seconds) for connection retries if the Connection Service is not reachable. (allowed entry: 5 -6000 | default = 120)

If a connection to the Connection Service was refused, it is because a value (client ID, authentication key, or IP address) was entered incorrectly. Check and modify your settings and reestablish the connection to the Connection Service manually. For this purpose, click **Reconnect**.

6.5   How Does the TPG60 Receive Encrypted Data?

A secure connection during the transfer of print jobs between ThinPrint® (server or Connection Service) and the TPG60 is guaranteed by means of an SSL encryption.

The ThinPrint® server requests a certificate from the TPG60. By means of this certificate, the ThinPrint® server checks whether the TPG60 is authorized to receive the print data.

If encryption was enabled on the server, you must install a CA certificate both on the ThinPrint® server and the TPG60.

To authorize the TPG60 to receive encrypted print data, proceed as follows:

- Create a certificate request; see: 'How to Create a Certificate Request for CA Certificates?' ⇨🖹66.

- Save the CA certificate; see: 'How to Save CA Certificates in the TPG60?' ⇨🖹67.

7 Security

A number of security mechanisms are available to ensure optimum security for the TPG60. The security mechanisms can be configured and activated according to your demands. The following security mechanisms are available:

- 'How to Protect the TPG60 against Unauthorized Access? (Password Control)' ⇨📄55

- 'How to Protect the TPG60 against Unauthorized Access? (IP Sender)' ⇨📄56

- 'How to Protect the TPG60 against Viruses?' ⇨📄58

- 'How Does the TPG60 Authenticate Itself in the network via EAP-MD5/LEAP?' ⇨📄59

- 'How Does the TPG60 Authenticate Itself in the network via EAP-TLS?' ⇨📄60

7.1 How to Protect the TPG60 against Unauthorized Access? (Password Control)

A password can protect the TPG60 against unauthorized access. If a password was set, you must enter the password before you can save the changes to the parameters. This means that changes to the parameters can only be made using a valid password.

If you do not want your parameters to be displayed, you can set a password at this stage as well. For this purpose, the parameter **Access control** must be enabled. If this parameter is enabled, a password must be entered when starting the TPG Homepage or when opening the **Properties** dialog.

- ☐ 'Defining the Password via the TPG Homepage' ⇨📄56

- ☐ 'Defining the Password via the InterCon-NetTool' ⇨📄56

Defining the Password via the TPG Homepage

Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Configuration – Protection**.
3. *Enter a password into the* **Password** *box.*
4. *Tick* **Access control**, *if necessary.*
5. *Click* **Save** *to confirm.*

↳ The settings are saved.

Defining the Password via the InterCon-NetTool

Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Double-click the TPG60 in the print server list.*
   The **Properties** *dialog appears.*
3. *Select* **Configuration – Protection** *from the navigation bar.*
4. *Enter a password into the* **Password** *box.*
5. *Tick* **Access control**, *if necessary.*
6. *Click* **OK** *to confirm.*

↳ The settings are saved.

7.2 How to Protect the TPG60 against Unauthorized Access? (IP Sender)

You can restrict the access to the TPG60 to a certain number of clients.

For this purpose, you must enter the IP addresses or host names of the clients into the **IP sender** box. The TPG60 will only accept data packets from the specified clients. Up to eight IP senders can be specified. The use of wildcards (*) is possible to define subnetworks, for example.

Once an IP sender has been defined, all undefined clients lose their authorization.

☐ 'Assigning Authorizations via the TPG Homepage' ⇨ 📄57

☐ 'Assigning Authorizations via the InterCon-NetTool' ⇨ 📄57

Assigning Authorizations via the TPG Homepage

📋 Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Configuration – Protection***.*
3. *Enter the IP addresses or host names of authorized clients into the* **IP sender** *box. (A host name can only be used if DNS was configured beforehand.)*
4. *Click* **Save** *to confirm.*
↳ The settings are saved.

Assigning Authorizations via the InterCon-NetTool

📋 Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Double-click the TPG60 in the print server list. The* **Properties** *dialog appears.*
3. *Select* **Configuration – Protection** *from the navigation bar.*
4. *Enter the IP addresses or host names of authorized clients into the* **IP sender** *box. (A host name can only be used if DNS was configured beforehand.)*
5. *Click* **OK** *to confirm.*
↳ The settings are saved.

7.3 How to Protect the TPG60 against Viruses?

The TPG60 cannot be attacked directly by viruses. Attacks to open ports (port 80 / HTTP, for example) can have a certain influence on the TPG60 and affect its functions.

To prevent attacks to the HTTP port, you can disable the HTTP protocol on the TPG60.

If the HTTP protocol is disabled, the TPG Homepage and printing via HTTP using the Print Monitor are not available.

What do you want to do?

☐ 'Disabling the HTTP Protocol via the TPG Homepage' ⇨ 🖹 58

☐ 'Disabling the HTTP Protocol via the InterCon-NetTool' ⇨ 🖹 58

Disabling the HTTP Protocol via the TPG Homepage

Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Configuration – Protection***.*
3. *Clear* **HTTP***.*
4. *Click* **Save** *to confirm.*
↳ The setting is saved.

Disabling the HTTP Protocol via the InterCon-NetTool

Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Double-click the TPG60 in the print server list.*
   The **Properties** *dialog appears.*
3. *Select* **Configuration – Protection** *from the navigation bar.*
4. *Clear* **HTTP***.*
5. *Click* **OK** *to confirm.*
↳ The setting is saved.

7.4 How Does the TPG60 Authenticate Itself in the network via EAP-MD5/LEAP?

The IEEE 802.1x standard provides methods for authentication and authorization in networks. Within the scope of the IEEE 802.1x standard, the TPG60 supports the authentication protocol EAP-MD5/LEAP.

You can verify the identity of the TPG60 using the authentication method EAP-MD5/LEAP.

EAP-MD5/LEAP describes a user-based authentication method via a RADIUS server. The TPG60 must be defined as user (with user name and password) on a RADIUS server. The authentication method EAP-MD5/LEAP must then be enabled on the TPG60 and the user name and password need to be entered.

Requirements ☑ The TPG60 is defined as user (with user name and password) on a RADIUS server.

What do you want to do? ☐ 'Enabling EAP-MD5/LEAP Authentication via the TPG Homepage' ⇨🗎59

☐ 'Enabling EAP-MD5/LEAP Authentication via the InterCon-NetTool' ⇨🗎60

Enabling EAP-MD5/LEAP Authentication via the TPG Homepage

🗁 Proceed as follows:
1. *Start the TPG Homepage.*
2. *Select* **Configuration – Protection**.
3. *Select* **Authentication**.
4. *Select* **EAP-MD5/LEAP** *from the* **Authentication** *list.*
5. *Enter the user name into the* **User name** *box.*
6. *Enter the password into the* **Password** *box.*
7. *Click* **Save** *to confirm.*
↳ The settings are saved.

Enabling EAP-MD5/LEAP Authentication via the InterCon-NetTool

Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Double-click the TPG60 in the print server list.*
   The **Properties** *dialog appears.*
3. *Select* **Configuration – Protection** *from the navigation bar.*
4. *Select the* **Authentication** *tab.*
5. *Select* **EAP-MD5/LEAP** *from the* **Authentication** *list.*
6. *Enter the user name into the* **User name** *box.*
7. *Enter the password into the* **Password** *box.*
8. *Click* **OK** *to confirm.*

The settings are saved.

7.5 How Does the TPG60 Authenticate Itself in the network via EAP-TLS?

The IEEE 802.1x standard provides methods for authentication and authorization in networks. Within the scope of the IEEE 802.1x standard, the TPG60 supports the authentication protocol EAP-TLS.

You can verify the identity of the TPG60 using the authentication method EAP-TLS.

EAP-TLS offers a highly cryptographic authentication of the client in the network. Both the client and the server exchange cryptographic certificates to verify their identities. The network components use a RADIUS server for authentication purposes. As for the security protocol EAP-TLS, the RADIUS server is integrated into a PKI (Public Key Infrastructure).

The EAP-TLS method works similar to a SSL connection where the browser uses a certificate to authenticate itself to a server (or the server to a browser). In this process, a method is applied that both sides can handle.

EAP-TLS describes a certificate-based authentication method via a RADIUS server. For this purpose, certificates are exchanged between the TPG60 and the RADIUS server.

If you want to use the EAP-TLS authentication, you must observe the following instructions in the indicated order.
Otherwise the TPG60 cannot be addressed in the network. In this case you have to reset the TPG60 parameters; see: 'How to Reset Parameters to their Default Settings?' ⇨🗎36.

Requirements

☑ Create a certificate request on the TPG60; see: 'How to Create a Certificate Request for CA Certificates?' ⇨🗎66.

☑ Create a CA certificate using the certificate request and the authentication server.

☑ Install the CA certificate on the TPG60; see: 'How to Save CA Certificates in the TPG60?' ⇨🗎67.

☑ Install the root certificate of the authentication server on the TPG60; see 'How to Save Root Certificates in the TPG60?' ⇨🗎68.

☑ Enable the authentication method 'EAP-TLS' on the TPG60.

What do you want to do?

☐ 'Enabling EAP-TLS Authentication via the TPG Homepage' ⇨🗎61

☐ 'Enabling EAP-TLS Authentication via the InterCon-NetTool' ⇨🗎62

Enabling EAP-TLS Authentication via the TPG Homepage

📑 Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Configuration – Protection**.
3. *Select* **Authentication**.
4. *Select* **EAP-TLS** *from the* **Authentication** *list.*
5. *Click* **Save** *to confirm.*

↳ The settings are saved.

Enabling EAP–TLS Authentication via the InterCon–NetTool

Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Double-click the TPG60 in the print server list.*
    The **Properties** *dialog appears.*
3. *Select* **Configuration – Protection** *from the navigation bar.*
4. *Select the* **Authentication** *tab.*
5. *Select* **EAP–TLS** *from the* **Authentication** *list.*
6. *Click* **OK** *to confirm.*

The settings are saved.

8 Certificate Management

What are Certificates?

Certificates can be used in TCP/IP-based networks to encrypt data and to authenticate communication partners. Certificates are electronic messages containing a key (public key) and a signature.

How to Use Certificates?

Certificates increase security. Use certificates on your TPG60

- to receive encrypted print data; see: 'How Does the TPG60 Receive Encrypted Data?' ⇨ 📄53.

- to check the identity of the TPG60 in the network; see: 'How Does the TPG60 Authenticate Itself in the network via EAP-TLS?' ⇨ 📄60.

If you want to use certificates, it is advisable to protect the TPG60 by a password so that certificates cannot be deleted by unauthorized persons; see 'How to Protect the TPG60 against Unauthorized Access? (Password Control)' ⇨ 📄55.

Which Certificates are available?

Both self-signed certificates and CA certificates can be used in the TPG60. The following certificates can be distinguished:

Self-signed certificates have a digital signature that has been created by the TPG60. If a self-signed certificate is used, the ThinPrint® server cannot print via SSL. A CA certificate is mandatory to print via SSL.

CA certificates are certificates that have been signed by a certification authority (CA).

The authenticity of the CA certificate can be verified by means of a so-called **root certificate** issued by the certification authority. The root certificate is stored on an authentication server in the network.

Upon delivery, a self-signed certificate (the so-called **default certificate**) is stored in the TPG60. It is recommended that you replace the default certificate by a self-signed certificate or CA certificate as soon as possible.

8.1 How to Create a Self-signed Certificate?

When a certificate is created on the TPG60 for the first time, a list of parameters is displayed that are required for the certificate.

If a self-signed certificate or a CA certificate has already been saved in the TPG60, the content of this certificate will be displayed. In this case you have to delete the existing certificate first; see: 'How to Delete Certificates?' ⇨ 📄69.

What do you want to do?

☐ 'Creating Self-signed Certificates via the TPG Homepage' ⇨ 📄64

☐ 'Creating Self-signed Certificates via the InterCon-NetTool' ⇨ 📄65

Creating Self-signed Certificates via the TPG Homepage

📁 Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Configuration – Certificates**.
3. *Select* **TPG certificate**.
4. *Enter the relevant parameters, see: table 6* ⇨ 📄65.
5. *Click* **Create self-signed certificate**.
↳ The certificate will be created and installed. This may take a few minutes.

Creating Self-signed Certificates via the InterCon-NetTool

Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Mark the TPG60 in the print server list.*
3. *Select* **Actions – Certificate – Server certificate** *from the menu bar. The* **Certificate** *dialog appears.*
4. *Tick* **Create self-signed certificate**.
5. *Click* **Next**.
6. *Enter the relevant parameters, see: table 6* ⇨📄 *65.*
7. *Click* **Next**. *The parameters are listed.*
8. *Confirm by clicking* **Next**.

↳ The certificate will be created and installed. This may take a few minutes.

Table 6: Parameters for the Creation of Certificates

Parameter	Description
Common name	Is used to clearly identify the certificate. It is advisable to use the IP address or the host name of the TPG60 to allow a clear assignment of the certificate to the TPG60. You can enter a maximum of 64 characters.
E-mail address	Indicates an e-mail address. You can enter a maximum of 40 characters. (Optional Entry)
Organization name	Specifies the company that uses the TPG60. You can enter a maximum of 64 characters.
Organizational unit	Specifies the department or subsection of a company. You can enter a maximum of 64 characters. (Optional Entry)
Locality name	Specifies the locality where the company is based. You can enter a maximum of 64 characters.
State name	Specifies the state in which the company is based. You can enter a maximum of 64 characters. (Optional Entry)
Country name	Specifies the country in which the company is based. Enter the two-digit country code according to ISO 3166. Examples: DE = Germany, GB = Great Britain, US = USA
Issued on	Specifies the date after which the certificate is valid.
Expires on	Specifies the date after which the certificate is invalid.

8.2 How to Create a Certificate Request for CA Certificates?

For using a CA certificate, a certificate request must be created in the TPG60 and sent to the certification authority. The certification authority will then create a CA certificate on the basis of the certificate request. The CA certificate must be in base 64 format. When the CA certificate has been received, it must be saved in the TPG60.

When a certificate request is created on the TPG60 for the first time, a list of parameters is displayed that are required for the certificate.

If a self-signed certificate or a CA certificate has already been saved in the TPG60, the content of this certificate will be displayed. In this case you have to delete the existing certificate first; see: 'How to Delete Certificates?' ⇨🖹69.

After the creation of a certificate request, no self-signed certificate can be created until the CA certificate has been saved.

What do you want to do?

☐ 'Creating a Certificate Request via the TPG Homepage' ⇨🖹66

☐ 'Creating a Certificate Request via the InterCon-NetTool' ⇨🖹67

Creating a Certificate Request via the TPG Homepage

Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Configuration – Certificates**.
3. *Enter the required parameters, see: table 6* ⇨🖹65.
4. *Click* **Create certificate request**.
   The creation of the certificate request is in progress. This may take a few minutes.
5. *Copy (Strg+c) the text between 'Begin Certificate Request' and 'End Certificate Request' and save (Strg+v) it into a text file.*
6. *Send the text file as certificate request to a certification authority.*

When the CA certificate has been received, it must be saved in the TPG60; see: 'How to Save CA Certificates in the TPG60?' ⇨🖹67.

Creating a Certificate Request via the InterCon-NetTool

🖱 Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Mark the TPG60 in the print server list.*
3. *Select* **Actions – Certificate – Server certificate** *from the menu bar. The* **Certificate** *dialog appears.*
4. *Tick* **Create certificate request***.*
5. *Click* **Next***.*
6. *Enter the relevant parameters, see: table 6* ⇨🖹65*.*
7. *Click* **Next***. The parameters are listed.*
8. *Confirm by clicking* **Next***. The creation of the certificate request is in progress. This may take a few minutes.*
9. *Copy (Strg+c) the text between 'Begin Certificate Request' and 'End Certificate Request' and save (Strg+v) it into a text file.*
10. *Send the text file as certificate request to a certification authority.*

When the CA certificate has been received, it must be saved in the TPG60; see: 'How to Save CA Certificates in the TPG60?' ⇨🖹67.

8.3 How to Save CA Certificates in the TPG60?

🛈

The root certificate must be in base 64 format.

☐ 'Saving CA Certificates via the TPG Homepage' ⇨🖹68

☐ 'Saving CA Certificates via the InterCon-NetTool' ⇨🖹68

Saving CA Certificates via the TPG Homepage

🗂 Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Configuration – Certificates***.*
3. *Select* **TPG certificate***.*
4. *Click* **Browse***.*
5. *Specify the CA certificate.*
6. *Click* **Load Certificate***.*

✎ The CA certificate is saved in the TPG60. This may take a few minutes.

Saving CA Certificates via the InterCon-NetTool

🗂 Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Mark the TPG60 in the print server list.*
3. *Select* **Actions – Certificate – Server certificate** *from the menu bar. The* **Certificate** *dialog appears.*
4. *Click ....*
5. *Specify the CA certificate.*
6. *Click* **Load***.*

✎ The CA certificate is saved in the TPG60. This may take a few minutes.

8.4   How to Save Root Certificates in the TPG60?

The TPG60 offers a number of authentication methods to verify its identity in a network. If you use the authentication method 'EAP-TLS', you must install the root certificate of the authentication server (RADIUS) on the TPG60; see: 'How Does the TPG60 Authenticate Itself in the network via EAP-TLS?' ⇨📄60.

The root certificate must be in base 64 format.

Saving Root Certificates via the TPG Homepage

📇 Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Configuration – Certificates**.
3. *Select* **Root certificate**.
4. *Click* **Browse**.
5. *Select the root certificate.*
6. *Click* **Load root certificate**.

↳ The root certificate is saved in the TPG60. This may take a few minutes.

Saving Root Certificates via the InterCon-NetTool

📇 Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Mark the TPG60 in the print server list.*
3. *Select* **Actions – Certificate – Root certificate** *from the menu bar. The* **Certificate** *dialog appears.*
4. *Click ....*
5. *Enter the root certificate.*
6. *Click* **Load**.

↳ The root certificate is saved in the TPG60. This may take a few minutes.

8.5 How to Delete Certificates?

If a self-signed certificate or a CA certificate is saved in the TPG60, the content of this certificate will be displayed under **TPG certificate**. If you want to use a different certificate you must first delete the existing certificate.

☐ 'Deleting Certificates via the TPG Homepage' ⇨ 🖹70

☐ 'Deleting Certificates via the InterCon-NetTool' ⇨ 🖹70

Deleting Certificates via the TPG Homepage

📂 Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Configuration – Certificates**.
3. *Select* **TPG certificate**.
4. *Click* **Delete**.

↳ The certificate is deleted.

Deleting Certificates via the InterCon-NetTool

📂 Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Mark the TPG60 in the print server list.*
3. *Select* **Actions – Certificate – Server certificate** *from the menu bar. The* **Certificate** *dialog appears.*
4. *Click* **Delete**.

↳ The certificate is deleted.

9 Firmware Update

A firmware update should be undertaken if function do not work properly and if SEH Computertechnik has released a new software version with new functions or bug fixes. You can download the current firmware files at www.seh.de.

The firmware is saved in the flash EPROM of the TPG60. In the course of a firmware update, the old firmware will be overwritten and replaced by the new firmware. The configuration parameters retain their original settings.

A firmware update can be carried out automatically (dynamic update) or manually (standard update).

- In the case of a standard firmware update, the firmware file is downloaded manually from a server or a data medium and saved in the TPG60.

- In the case of a dynamic firmware update, polling is performed during a TPG restart to determine whether, in the meantime, a later version of the firmware file has been stored on the specified file server. If this is the case, the firmware file is automatically saved in the TPG60 via FTP.

It is possible to perform a firmware update for several TPG60 simultaneously. To this purpose, the firmware files have to be stored in the directory that will be used for the firmware update.

- 'How to Realize a Standard Firmware Update?' ⇨🗎72
- 'How to Configure Dynamic Firmware Updates?' ⇨🗎74
- 'How to Realize a Firmware Update for Several TPG60?' ⇨🗎77

9.1 How to Realize a Standard Firmware Update?

☑ The TPG60 is turned on and visible in the network.

☑ All print jobs are finished.

What do you want to do?

☐ 'Standard Firmware Update via the TPG Homepage' ⇨ 📄72

☐ 'Standard Firmware Update via the InterCon-NetTool' ⇨ 📄72

☐ 'Standard Firmware Update via FTP' ⇨ 📄73

Standard Firmware Update via the TPG Homepage

Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Actions – Download Area***.*
3. *Select* **Standard Firmware Update***.*
4. *Click* **Browse***.*
5. *Select the firmware file.*
6. *Click* **Download***.*

↳ The firmware update is executed. The TPG60 is restarted.

Standard Firmware Update via the InterCon-NetTool

Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Mark the TPG60 in the print server list.*
3. *Select* **Actions – Firmware Update – Standard Update** *from the menu bar. The* **Firmware update** *dialog appears, see: figure 8* ⇨ 📄 *73.*
4. *Click* **Choose***.*
5. *Select the firmware file.*
6. *Click* **Start update***.*
7. *Confirm the security query.*

↳ The firmware update is executed. The TPG60 is restarted.
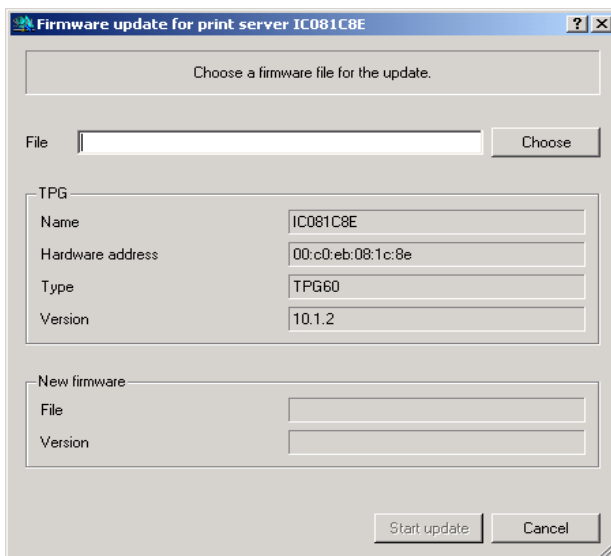
Fig. 8: InterCon-NetTool - Firmware Update

Standard Firmware Update via FTP

You can update the standard firmware of your TPG60 via an FTP connection.

📂 Proceed as follows:

1. *Change to the directory where the firmware file is located.*

2. *Open an FTP connection to the TPG60:*
   Syntax: `ftp <IP address of the TPG60>`
   Example: `ftp 192.168.0.123`

3. *Enter an arbitrary user name.*

4. *Enter either the TPG60 password or press ENTER if no password has been assigned.*

5. *Switch to binary mode:*
   `bin`

6. *Transfer the firmware file to the TPG60:*
   Syntax: `put <name of firmware file> binfile`
   Example: `put hp93.bin binfile`

7. *Close the FTP connection:*
   `quit`

9.2 How to Configure Dynamic Firmware Updates?

Specify a directory on the file server. The directory contains the current firmware files.

At each restart, the TPG60 verifies the version of the firmware files. If the TPG60 detects a higher version, this version will be installed automatically on the TPG60.

The dynamic firmware update cannot be used to save an earlier version of the firmware on the TPG60. In this case use the standard firmware update.

Requirements

☑ The TPG60 is turned on and visible in the network.

☑ The file server on which the firmware files are stored either uses the 'anonymous login' or the TPG60 is set up as user on the file server.

What do you want to do?

☐ 'Dynamic Firmware Update via the TPG Homepage' ⇨ 🖹74

☐ 'Dynamic Firmware Update via the InterCon-NetTool' ⇨ 🖹76

☐ 'Dynamic Firmware Update via FTP' ⇨ 🖹76

Dynamic Firmware Update via the TPG Homepage

Proceed as follows:

1. *Start the TPG Homepage.*
2. *Select* **Actions – Download Area**.
3. *Select* **Dynamic Firmware Update**.
4. *Tick* **Dynamic Firmware Update**.
5. *Specify the IP address of the file server on which the new firmware files are to be stored.*
   Syntax: `ftp://<file server IP address>/ <Firmware file name>`
   Example: `ftp://192.168.0.100/hp93.bin`
   (If your system supports name resolution via WINS, DHCP, or

DNS, you can enter the name of the file server instead of the IP address of the file server).
Example: `ftp://file.server.de/hp93.bin`

6. *If you use a proxy server, tick* **Use proxy server** *and enter the IP address of the proxy server.*

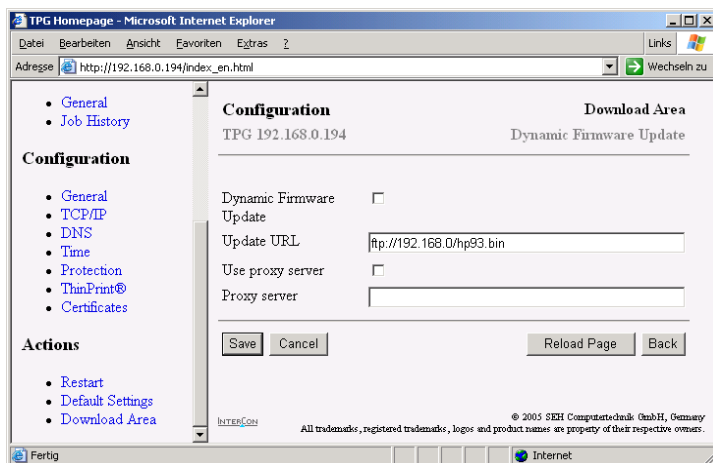7. *Click* **Save** *to confirm.*

✎ The settings are saved.

Fig. 9: TPG Homepage – Dynamic Firmware Update

Dynamic Firmware Update via the InterCon–NetTool

Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Mark the TPG60 in the print server list.*
3. *Select* **Actions – Firmware Update – Dynamic Update** *from the menu bar. The* **Dynamic update** *dialog appears, see: figure 10* ⇨📄*76.*
4. *Specify the IP address of the file server on which the new firmware files are to be stored.*
   Syntax: `ftp://<file server IP address>/ <Firmware file name>`
   Example: `ftp://192.168.0.100/hp93.bin`
   (If your system supports name resolution via WINS, DHCP, or DNS, you can enter the name of the file server instead of the IP address of the file server).
   Example: `ftp://file.server.de/hp93.bin`
5. *If you use a proxy server, tick* **Use proxy server** *and enter the IP address of the proxy server.*
6. *Click* **OK** *to confirm.*

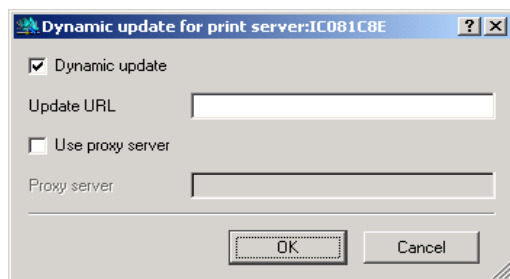↳ The settings are saved.

Fig. 10: InterCon-NetTool - Dynamic Update

Dynamic Firmware Update via FTP

The parameters for a dynamic firmware update can also be configured via FTP. For further information, read section 'Configuring Parameters via an FTP Connection' ⇨📄32.

9.3 How to Realize a Firmware Update for Several TPG60?

A simultaneous firmware update to more than one TPG60 is only possible via the InterCon-NetTool.

Requirements

☑ The TPG60 are turned on and visible in the network.

☑ All print jobs are finished.

☑ All required firmware files are located in one directory.

🖮 Proceed as follows:

1. *Start the InterCon-NetTool.*
2. *Mark the TPG60 in the print server list.*
3. *Select* **Actions – Firmware Update from the menu bar.** *The* **Dynamic Update** *dialog appears.*
4. *Click* **Choose**.
5. *Select the directory in which the firmware files are located.*
6. *Click* **OK** *to confirm.*
7. *Check whether the right firmware files are shown in the list. If necessary, change the assignment of the firmware files to the TPG60 by right-clicking the TPG60.*
8. *If one single password is used for all TPG60, select* **Use this password** *and enter the password.*
9. *Click* **Start update**.
10. *Confirm the security query.*

↳ The firmware update is executed. The TPG60 are restarted.

10 Parameter List

This chapters gives an overview of all available TPG60 parameters.

Table 7: Parameter List – General

Parameter	Description	Default	Value
info_txt	Name of the dealer or supplier	[blank]	64 characters
info_url	URL of the dealer or supplier	[blank]	34 characters
language	Defines the language of the device	EN	EN = English DE = German FR = French ES = Spanish IT = Italian PT = Portuguese JP = Japanese CN = Chinese simplified ZH = Chinese traditional KR = Korean
sp_mode	Data format of the printed status page	ASCII	ASCII PostScript DATAMAX
eth_conf	Network speed of the TPG60. 'Auto' means that the network speed is recognized automatically. If the speed is set manually, it must be adapted to the other network devices.	0	0 = Auto 1 = 10BaseT/FL HALF 2 = 10BaseT/FL FULL 3 = 100BaseTX/FX HALF 4 = 100BaseTX/FX FULL

Table 8: Parameter List – ThinPrint®

Parameter	Description	Default	Value
tp_port	ThinPrint® port number	4000	1 - 65535 [5 characters, 0-9]
tp_clientid	Client ID as stored in the database of the Connection Service.	0	0 - 2147483647 [10 characters, 0-9]
tp_authkey	Authentication key as stored in the database of the Connection Service.	0	0 - 2147483647 [10 characters, 0-9]
tp_bandwidth	Enables/disables the bandwidth value of the ThinPrint® port (client side)	off	on/off
tp_bandwidthval	Bandwidth in bit/second (bit/s) used to decrease the bandwidth limit on the ThinPrint® port (client side).	25600	1600 - 1000000 [7 characters, 0-9]
tp_conservice	Enables/disables the .print Connection Service	off	on/off
tp_conserver	IP address of the server on which the Connection Service is installed	000.000. 000.000	
tp_conport	Port number used by the TPG60 to communicate with the Connection Service	4001	1 - 65535 [5 characters, 0-9]
tp_retry	Interval (in seconds) for connection retries if the Connection Service is not reachable.	120	5 - 6000 [4 characters, 0-9]
tp_keepalive	Interval (in seconds) for refreshing the connection to the Connection Service. The value has to be lower or equal than the 'KeepAliveTO' parameter of the .print Connection Service (server side).	60	30 - 180 [3 characters, 0-9]
spage_printer	ID of the status page printer	1	1 - 6 [1 characters, 1-6]

Parameter	Description	Default	Value
tp1_printer_name ~ tp6_printer_name	Freely definable description (of the printer name)	[blank]	max. 32 characters [a-z, A-Z, 0-9, _, -]
tp1_printer_class ~ tp6_printer_class	Printer class Printers with compatible drivers can be arranged in one class.	[blank]	max. 8 characters [a-z, A-Z, 0-9]
tp1_remote_ip ~ tp6_remote_ip	IP address or host name of the printer	[blank]	max. 128 characters [.,0-9,A-Z,a-z]
tp1_remote_port ~ tp6_remote_port	Port for the socket printing of the printers	9100	1 - 65535 [5 characters, 0-9]

Table 9: Parameter List – TCP/IP

Parameter	Description	Default	Value
ip_addr	IP address of the TPG60	000.000.000.000	
ip_mask	Subnet mask	depends on the IP address	
ip_gate	Gateway address	000.000.000.000	
ip_dhcp	Enables/disables the DHCP protocol	off	on/off
ip_bootp	Enables/disables the BOOTP protocol	off	on/off
ip_auto	Enables/disables the IP address assignment via ARP/PING	on	on/off

Parameter	Description	Default	Value
ip_set_by	Applied method for the IP address assignment	[blank]	0 = Unknown 1 = SNMP 2 = BOOTP 3 = DHCP 4 = PING 5 = not defined 6 = ZeroConf 7 = 'parameters' file 8 = not defined 9 = not defined 10 = not defined 11 = not defined 12 = HTTP
ip_auto_gate	Enables/disables the automatic entry of a found multicast router as gateway address. If disabled, the gateway address has to be entered manually.	on	on/off
ip_zconf	Enables/disables ZeroConf	on	on/off
bonjour	Enables/disables Bonjour	on	on/off
sys_name	TPG60 host name	[default name]	max. 64 characters
sys_descr	Freely definable description (of the TPG60)	[blank]	max. 128 characters
sys_contact	Freely definable description (of the contact person)	[blank]	max. 64 characters
sys_location	Freely definable description (of the device location)	[blank]	max. 64 characters

Table 10: Parameter List – DNS

Parameter	Description	Default	Value
dns	Enables/disables the name resolution via a DNS server	on	on/off
dns_domain	Domain name of an existing DNS server	[blank]	max. 255 characters
dns_primary	IP address of the primary DNS server.	000.000.000.000	
dns_secondary	IP address of the secondary DNS server. The secondary DNS server is used if the primary DNS server is not available.	000.000.000.000	

Table 11: Parameter List – SNTP

Parameter	Description	Default	Value
sntp	Enables/disables the use of a time server for the Greenwich Mean Time.	on	on/off
sntp_server	IP address or domain name of the SNTP server (The domain name can only be used if a DNS server was configured beforehand).	[blank]	max. 255 characters
sntp_tzone	Equalizes the difference between the Greenwich Mean Time and the local time. Example: 0 = Greenwich Mean Time 3 = Greenwich Mean Time +3 hours	0	12 ~ -12

Table 12: Parameter List – Protection

Parameter	Description	Default	Value
passwd	Password for the access control If a password was set, you must enter the password before you can save the changes to the TPG60 parameters.	[blank]	
access_control	Enables/disables the password demand for TPG60 parameters. (Only makes sense if a password was set, see parameter 'passwd')	off	on/off
ip1_sender ~ ip8_sender	IP address or host name of the client allowed to address the TPG60 in the network. Once an IP sender has been defined, all undefined clients lose their authorization. Up to eight IP senders can be specified. Wildcards (*) can be used.	*	max. 255 characters
http	Enables/disables the HTTP protocol on the TPG60 (The TPG Homepage cannot be started if the HTTP protocol is disabled.)	on	on/off

Table 13: Parameter List – EAP Authentication

Parameter	Description	Default	Value
eap_auth_type	Authentication method applied by the TPG60 to identify itself in the network.	1	1 = none 2 = not defined 3 = EAP-MD5/LEAP 4 = EAP-TLS
eap_auth_name	Name of the TPG60 as saved in the authentication server (RADIUS).	[blank]	max. 64 characters
eap_auth_pwd	Password of the TPG60 as saved in the authentication server (RADIUS).	[blank]	max. 64 characters

Table 14: Parameter List – Dynamic Update

Parameter	Description	Default	Value
dyn_update	Enable/disables the dynamic firmware update	off	on/off
dyn_update_url	URL Location of the firmware files needed for the dynamic firmware update	[blank]	
dyn_proxy	Enables/disables the use of a proxy server for the dynamic firmware update	off	on/off
dyn_proxy_url	URL of the proxy server for the dynamic firmware update	[blank]	

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