

b.a.b.-technologie gmbh

Product Training eibPort

Introduction, training and workshop

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Introduction

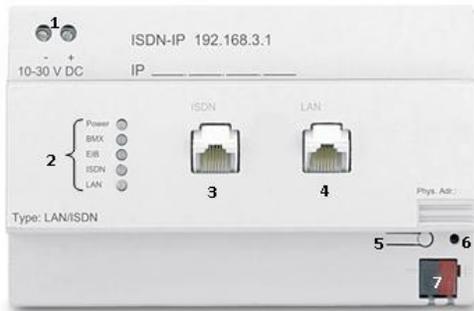


Figure 1: eibPort

1. Power 10-30 V DC
2. Signal-LEDs (See Appendix)
3. RJ 45 Jack for Euro ISDN
4. RJ 45 Jack for Ethernet LAN
5. Program Switch EIB-BCU
6. Program-LED EIB-BCU
7. Bus connector EIB

Overview

The eibPort

The *eibPort* (Figure 1: the eibPort) connects the EIB world to the Ethernet (LAN) as a gateway. In addition, *the eibPort* serves a visualization and control of the whole electrical installation. The access to the EIB follows locally on site, or from a distance. The machine is without fan, silent therefore, and has energy absorption less than 5 W. It is planned for the installation in the standard-distribution board. The only thing you need for the visualization and configuration is a Java enabled Internet browser. **The eibPort** is equipped with a web server and contains a row of Java applets (programs). These applets can be opened via the browser and the project data can be stored in *the eibPort*.

→ Item: "Functional areas"

Possibilities of the gateway feature

The eibPort visualization is not only for local action (in the LAN). Via WLAN or the Internet, the eibPort supports visualization and control also **for mobiles, iPhones, iPod touch** and **PDA's**.

There is the possibility:

- to visualize with a couple of panel PCs or several computers at the same time.
(license-free)
- to integrate images from network cameras.
- for **facility coupling** via the LAN interface (to link different EIB worlds with each other).
- to program the EIB world via the LAN or Internet (WAN) **with the ETS-Tool**.
- to control multiple devices (i.e., multimedia machines) directly by the integration of different protocols.
- **to visualize over the distance.** (Keyword DynDNS Service)

Functional areas

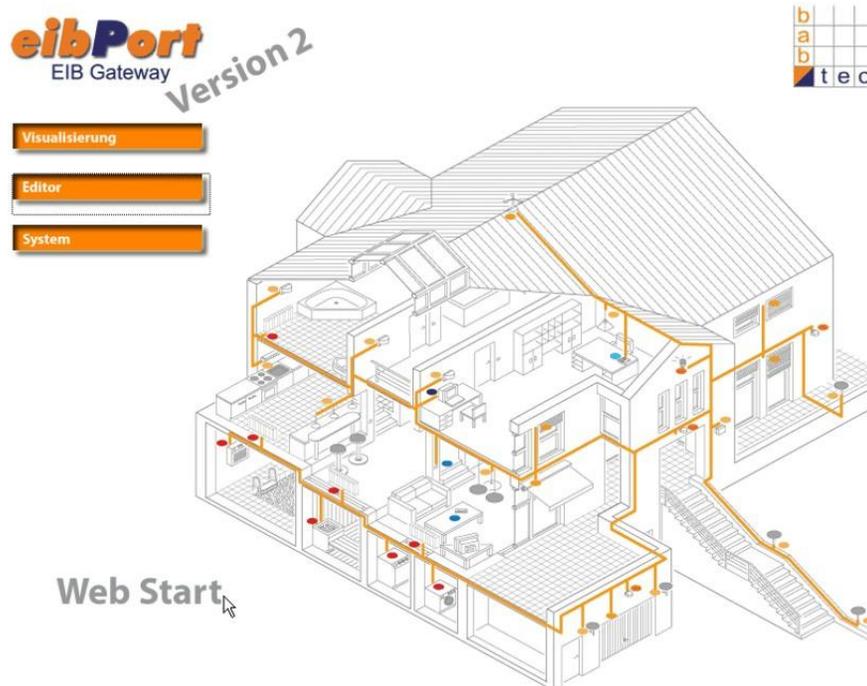


Figure 2: Homepage

Open an Internet browser on your, e.g., PC platform. It can be used:

- Internet Explorer from version 5
- Netscape from version 4.77
- Konquerer from KDE 3.0
- Mozilla Firefox

You need the Java-plug-in (version 5 or higher) on your system to make your Browser ready for visualization.

Enter the URL into the address bar: `http://192.168.1.1` (default settings),

Or the IP-address you assigned to your eibPort.

There are four functional areas on the start page (Figure 2, Home page): **visualization**, **editor** and **system** and **the web start** feature.

HINT: THE HOME PAGE WILL BE DISPLAYED, WHEN YOU ENTER THE IP-ADDRESS INTO THE ADDRESS BAR OF YOUR WEB BROWSER.

Visualization

With the button **Visualization** you open the visualization window. If you have established created projects, (e.g., for PC and the web Pad) a menu appears for the choice of a project. If the user administration is active, you are asked for your login. By clicking different elements on the visualization screen, commands from the eibPort will be send to the EIB. There is also a feedback from the EIB to the visualitzation for state indication.

Editor

The visualization editor is launched with a click on the button **Editor**. This application is the central tool for creating a visualization and parametrizing jobs in *the eibPort*.

The editor itself is split in four different areas:

Visualization Editor, Job Editor, Wap Editor and Home Information Center

With the visualization editor one or more visualization projects can be created. Images and wallpapers are placed and the size of the visualization can be set. A menu bar with preconfigured visualization elements is available. Here you will also find the **user administration** for the visualization.

The visualization editor is configured under the menu item: file > preferences. The preferences enclose auto start, EIB address representation (in 2 or 3 layer), the internal eibPort clock and user administration.

The job editor provides numerous services, which are called "Jobs". You can create and parametrize them here. Jobs are functions which are processed by the eibPort autonomous in the background i.e.

- logical gate, delayer
- week timer, year timer
- SMS, e-mail
- light scenes
- stairs light time switch
- hysteresis and logic threshold
- facility coupling
- date and time elements
- IP telegram's (UDP and xPL)
- multiplex job for EIS15
- comparator

Using the WAP editor you create pages, which you can access with a WAP mobile phone. Here you parametrize the EIB commands to be performed via WAP. The WAP standard 2.1 is supported.

System

Through his menu item you will open the Config Tool. There you can configure the basic parameters and various preferences for the integration of the eibPort into your network, IP routing, password administration etc. Preferences like the start up page of the the eibPort, database connections, file transfer, saving and restoring is possible with the Config Tool.

In the chapter *commissioning* these preferences are explained more specific.

Java Web Start

Java the web start is a technology from Sun Microsystems which enables your Browser to launch Java applications from the Internet with only one click. Nevertheless, as opposed to Java applets Java-Web-Start-Applications don't need a browser.

The advantage of this technology is, that the applets and data that will not change are stored locally on the computer. This data must not be transmitted for every start of the visualization or the editor anew.

Basics

Requirements

For using the eibPort your PC meet the following requirements: meet the condition

- an up to date web browser (e.g., Internet Explorer or Mozilla Firefox) and
- Sun Java 2 Standard Edition 5.0 or later (Runtime Environment)
- Network connection

Commissioning

Connections the eibPort

The eibPort works with an operating voltage of 10-30 V DC (direct current). You can also use the Auxiliary voltage (without choke) output of the EIB power supply (spend attention to polarity). (Figure 1 - connection 1 - power supply)

NOTICE: THE NOMINAL EIB BUS VOLTAGE MAY NOT BE USED TO SUPPLY THE POWER INPUT OF THE THE EIBPORT 10-30 V DC

The direct feed orifice to the EIB line (Figure 1 - connection 7 - bus connecting terminal EIB) is used for the dispatch and reception of EIB telegram's with normal bus load.

The eibPort can be linked either directly with your computer or via a Switch or router.

HINT: THE EIBPORT IS DELIVERED WITH THE ADDRESS IP 192.168.1.1.

STANDARD LOGIN IS WRITTEN IN SMALL LETTERS ADMIN AND EIBPORT (WITH AN UPPERCASE P)

Connecting to the eibPort

As mentioned above the eibPort is delivered with a default IP address of **192.168.1.1**. To use the eibPort, you need a PC connected to the network with installed Java and a web browser.

HINT:IF YOU HAVE LOST THE IP-ADDRESS, YOU CAN USE THE DISCOVERYTOOL TO LOOK IT UP (SEE ATTACHMENT DISCOVERY TOOL).

Any computer within the same LAN as the eibPort is able to access the device. The connection can be done with a switch or router organizing the network or a directly via a network cable.

To access the eibPort via PC, the IP address of the computer has to be in the same address range as the eibPort. Taking the default eibPort IP address of 192.168.1.1 as an example, your computer has to be in the range of 192.168.1.2 to 192.168.1.254. If your computer is not in the same address range, the IP address of your computer has to be changed before access to the eibPort is possible. After configuring the network parameters, the computer is ready to communicate with the eibPort.

To access the eibPorts local homepage, you have to launch your preferred web browser and enter IP address of the eibPort you are willing to connect to. According to your confirmation, your web browser should indicate the home page of your eibPort like shown in figure 2.

PC settings for the eibPort

Via the network

The following chapter is a detailed description of all the necessary steps to configure a Windows XP PC for connection with the eibPort.

These necessary steps are:

- adjust network settings
- adjust Internet Explorer settings
- install Java software

Network preferences

To access your eibPort, we recommend choosing a fixed IP address for the desired computer.

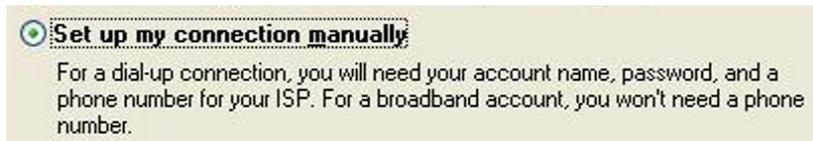
1. click on „start“ and open *the control panel*
2. open „*network connections*“



3. If you have already established a network connection, just skip item 4 and go straight on with item 5. If no active LAN connection is indicated at this point, start reading the following instructions.
4. Click on „*New Connection Wizard*“.



Click on „next” button in the newly opened wizard dialog.



Answer the next three questions like shown and confirm your current selections with a click on „next”.

Click on finishing. Now you have established a new LAN connection.

5. Click with your right mouse button on the LAN connection and choose „Properties”.

6. Select item „Internet protocol (TCP/IP) ” and click „Properties”.

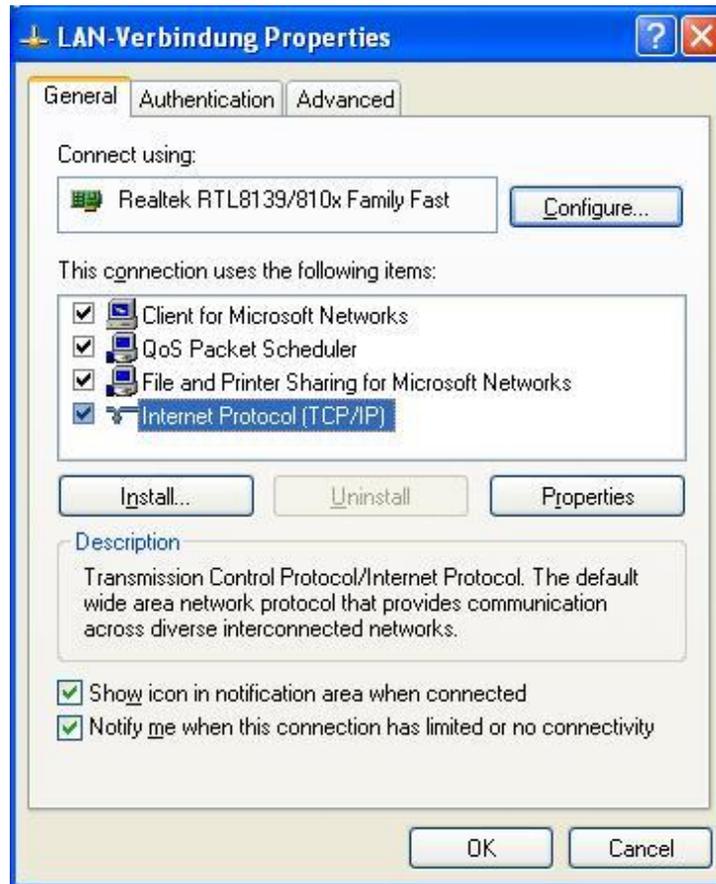


Figure 3: LAN Properties

7. Choose „Use the following IP address“ and fill the form with values matching your network configuration. As we deliver the eibPort with a default IP set to 192.168.1.1, your IP address has to be in same IP range to be able to contact the eibPort. After setting your IP address, Windows automatically recommends a „Subnet mask“ value of 255.255.255.0. Unless your already configured network demands a different setting, this value could be left unchanged. If a gateway is used across your network, change the „Default gateway“ address accordingly. Otherwise this field could remain empty. Confirm your settings by pressing „OK“.

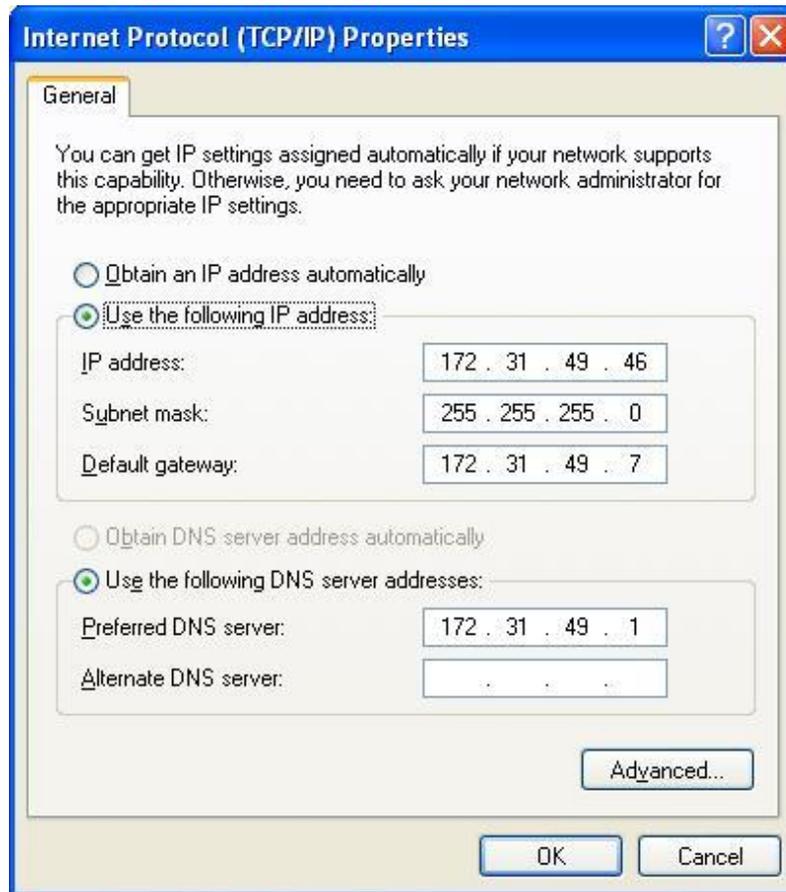


Figure 4: Internet Protocol (TCP/IP) Properties

Internet Explorer preferences

To work with your eibPort without any problems, you should adjust the following settings in your Internet Explorer:

1. Launch the Internet Explorer and choose „Internet options“ in menu entry „Extras“
2. Select tab entry „General“ and press the „Settings...“ button



Figure 5: Internet Options

3. Select „Every visit to the page “ and confirm you decision by clicking on „OK“



Figure 6: Settings

- Next click on the tab entry „Connections“. Mark „Never dial a connection" if possible



Figure 7: Internet Options

- Hit „LAN Settings..." button and uncheck all available options. Close window by pressing „OK“.

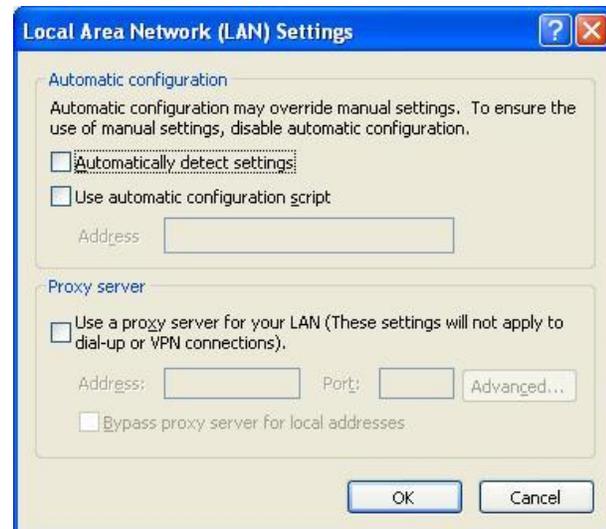


Figure 8: LAN Settings

Install Java

- Go to <http://java.sun.com> and download latest Java Standard Edition
- Follow installation instructions given by Sun

The first steps using ConfigTool

After loading eibPort homepage, the ConfigTool Software is available by pressing button „System“.

1. To ease the use of an eibPort just put into operation, some global settings should be changed at first:

- "eibPort name" to identify the eibPort unambiguously
- "mounting place", to assign, amongst others, the proper time zone
- "physical address ", to use the eibPort in an ETS project

2. Furthermore, network preferences should now be changed if desired (see Figure 15).

- IP address
- standard Gateway*
- DNA Server*

*only necessary, if e-mail dispatch, NTP time server or installation coupling over the Internet is required

To save your settings, press „Save data to eibPort“. If one of the network settings was changed, the eibPort Device has to reboot. If so, the ConfigTool is closed down automatically.

HINT: IF YOU HAVE CHANGED YOUR EIBPORTS IP ADDRESS, BE SURE TO CLOSE YOUR WEB BROWSER AND CALL THE HOMEPAGE WITH THE JUST GIVEN IP ADDRESS!

The first steps in the Visualization editor

NOTICE: FOR SIMPLICITY, AN ESF-FILE IS ALREADY LOADED INTO THE EIBPORT.

Like ConfigTool, the Visualization Editor is accessible by calling the eibPorts Homepage and pressing the „editor“ button.

Before you could start building your visualization, a new project has to be created first. Therefore, click the „create project“ icon, red encircled in Figure 8. Next, choose a name for your project and confirm it.

Now you are ready to create a visualization page in the newly generated project. Select your project and add a new visualization page by pressing the green encircled icon.

To customize your visualization page, some page parameters are accessible on the right side of your editor view. This area contains options to change the page name, size and/or background color. Alternatively a background image could be chosen as well.

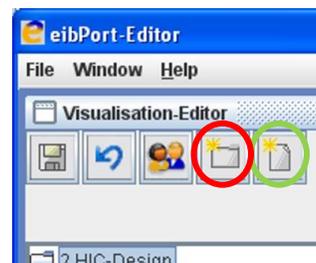


Figure 9: First steps editor

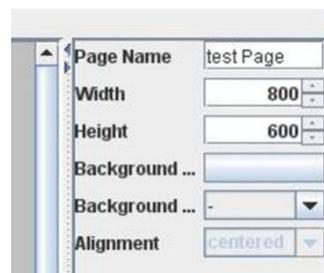


Figure 10: Editor Page Parameters

Until now the visualization provides no functionality. We will change this in the next few steps. At first add one control and one display element to the visualization page. You could achieve this by pressing the switch button (red encircled, Figure 11) and position the switch with your mouse or arrow keys pixel-exactly on your page. While the switch is highlighted, the matching EIB group address can be assigned in the parameter area (blue rectangle, Figure 11). Press „Switching Group Address” and choose you desired address comfortably from the now accessible list.

Repeat the same process with the display element (green encircled, Figure 11). If display element is placed, assign same group address as given to the switch before. By the fact that the display element and the switch use the same group address for communication, the display element indicates the condition of the switch and the group address.

Save your project by pressing the „Disc” icon (orange encircled, Figure 11) and store the data in your eibPort for further usage.

You have just built your first visualization!

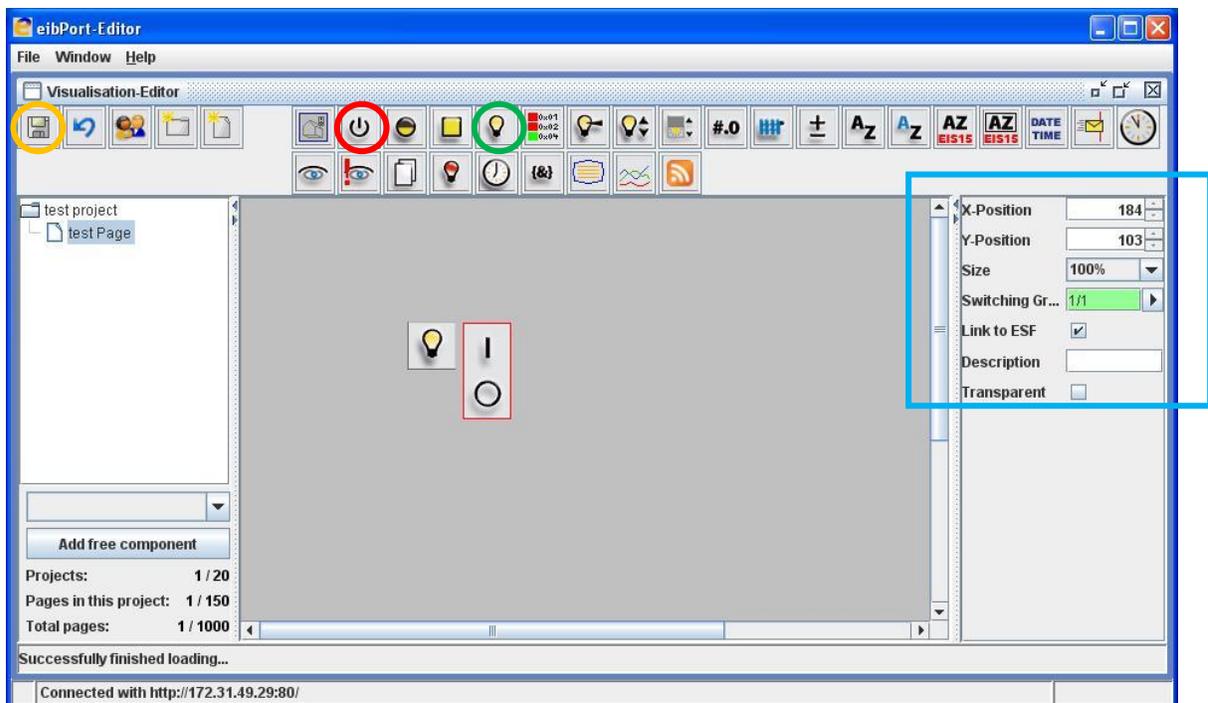


Figure 11: Visualization Editor

eibPort in detail

eibPort

In general

Jobs on the low-voltage network and on the EIB may be carried out only by trained electric specialist staff.

Transfer and connection of the bus line, the 10-30V voltage line as well as the device to be installed must be carried out according to the guidelines of DIN-VDE and the EIB reference manual.

The eibPort is designed for mounting in cubicle or distribution boxes and could be used in any fixed installations like:

- interiors
- dry rooms
- low-voltage distribution boxes
- small cases

On this occasion, it is to be noticed that the ambient conditions are kept according to the degree of protection (IP20) of the device and the allowed operating temperature.

The protection class is: III

The EIB/KNX nominal bus voltage may not be used as operating voltage 10-30 V DC

Electrical security

German Institute for Standardization EN 55024 equipment of the information technology

German Institute for Standardization EN 60950 security of equipment of the information technology.

German Institute for Standardization EN 50090-2-2 electric systems engineering for home and building

CE – labeling according to:

EMV-guideline (residential building and functional structure)

EN 50081-1

EN 50082-2

EN 50090-2-2

Property structure

The eibPort clones the communication object structure of the EIB. That is every object could assign up to 5 group addresses. Therefore the address allocation of an e.g. actuator channel can be copied directly. For this reason, the eibPort is at any time informed about the actual actuator status and therefore there is no need of using complex systems of device feedback messages to gain the status “by hand”. This approach simplifies the creation of logical shortcuts, because every entrance property of the gates can be easily associated with up to 5 group addresses.

The eibPort supports 32 main groups (both, 2 or 3 digit notations are usable). These main groups are classified as follows:

0 to 15	Real EIB Addresses
16 to 31	Virtual EIB Addresses

Only messages with a destination main address from 0 to 15 where send to the EIB bus. Unlike real addresses, virtual addresses where only send within the network or get used by the eibPort internally. Through this partitioning scheme the bus load could be reduced, since a central visualization bound into the network can activate / deactivate for example timer in the eibPort straight without loading the EIB.

General syntax:

Every group address more than one has to be written in brackets and by comma separated from the next address.

i.e. .: 2/12 (2/13,2/14,2/15,2/16)

iETS

Every eibPort has a build in iETS server. The counterpart of this iETS server is the iETS client of the EIBA. A pair of IETS Server and iETS client allows the whole ETS functionality via ISDN or the network.

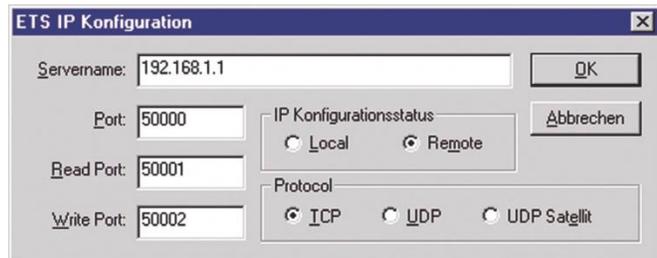


Figure 12: ETS IP Configuration

PLEASE, NOTICE! DURING THE WORK WITH THE IETS SERVER NO SERVICES WERE EXECUTED FROM THE EIBPORT AND ALSO NO EIB TELEGRAMS ARE TRANSMITTED OR RECEIVED.

For the communication via ISDN the address IP 192.168.3.1 has to be used. As communication type IP (EIBlib/IP) has to be chosen.

IMPORTANT: PLEASE ALWAYS CLOSE THE IETS CLIENT IN ETS WITH "QUIT FILE", SO THAT THE EIBPORT IETS SERVER IS SHUT DOWN PROPERLY AND THE DEVICE IS ABLE TO CONTINUE ITS WORK.

ConfigTool

The whole configuration of the eibPort can be done with just the ConfigTool, thus there is no need for an extra ETS Software. To protect your configuration, access to ConfigTool is secured with a 6-digit SSH key. This is not changeable and is given by us. The SSH key is enclosed with the delivered package of our eibPort.

The ConfigTool is the main access to all eibPort settings and visualizations. Here you can upload images and files, users can be established, backups are constructed and much more can be done.

Every item of eibPorts user interface provided with its own tooltip. If you need information about a specific item, rest your mouse cursor over the desired object and a short description is shown immediately.

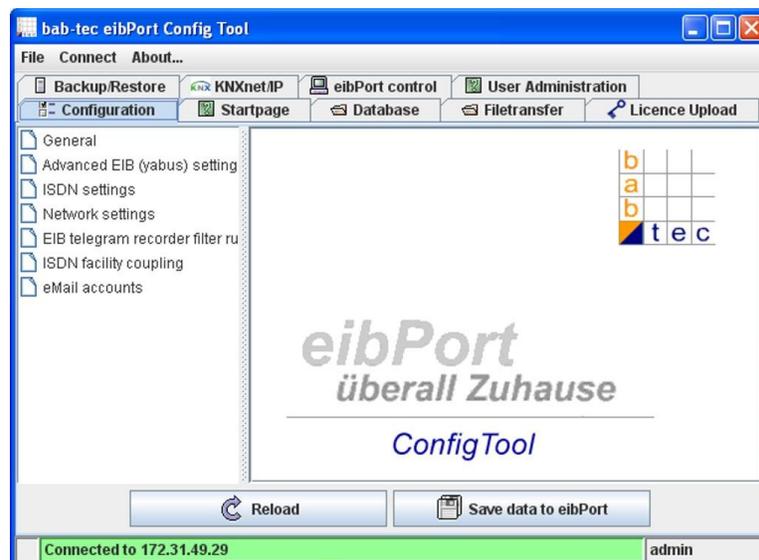


Figure 13: ConfigTool

Main View

The main view of our ConfigTool (Figure 13) is divided into three sub areas. On top of all you could access a menu bar, giving you control over different eibPorts in your installation or information about the eibPort you are actually connected to. Below this menu bar, all main functions of eibPort are grouped and organized. At last the third area contains all available options, regarding the function you selected before. The next sub chapters will explain these functions in detail.

Configuration

The left side of your „Configuration“ view displays a list of available categories. Click on a category to indicate their parameters in the right side of your view. The number of the indicated parameters is depending on the users rights. To guide you through your configuration, all parameters are capable of showing additional information by hover your mouse cursor over the parameters name.

General

The „General” entry (Figure 14) contains basic preferences for your system. In detail, these are your eibPorts name, physical address for EIB access and location of your installation. Furthermore, serial numbers of your eibPort and the under laying hardware were displayed. Please have these serial numbers ready when asking for support.

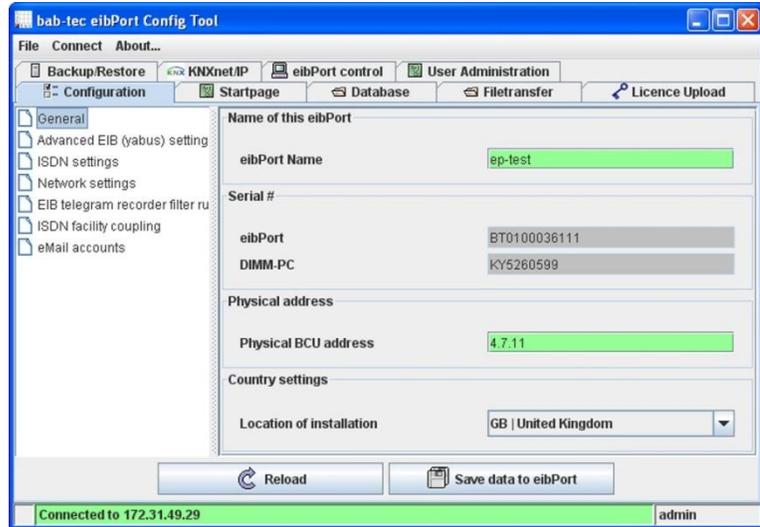


Figure 14: ConfigTool, Gernal

Advanced EIB (yabus) settings

If you are in need of a particular network setting for accessing your eibPorts EIB part, have a look at „Advanced EIB (yabus) settings”.

Here, for example, you can customize network ports for your web or SSH access as well as ports for communication (bmx) with the job editor and your visualization via TCP and UDP.

HINT: IF A WORKING EIBPORT ETS SERVER IS NOT NECESSARY FOR YOUR INSALLATION, IT CAN BE SWITCHED OFF BY UNCHECKING „iETS server enabled” AT THIS POINT. THUS ALSO PREVENTS YOUR INSTALLATION FROM UNAUTHORIZED CONNECTION WITH THE ETS!

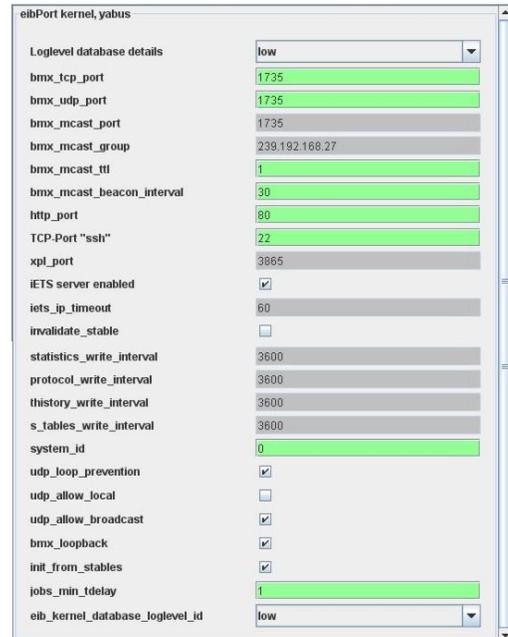


Figure 15: ConfigTool, Advanced EIB settings

Network settings

To change your network settings, select this parameter from list.

If you are willing to use an external DHCP Server for your eibPort configuration, please check „DHCP use“ option. In case DHCP is in use, the following four parameters are not taken into consideration.

If you are using a DNS server for name resolution, you have to enter the servers IP address into the provided text field.

Figure 16: ConfigTool, Network settings

IMPORTANT: A VALID DNS ENTRY AT THIS POINT IS A REQUIRED FOR E-MAIL DISPATCH.

To use your eibPort as clock device for your EIB installation, it needs to retrieve the current time from a NTP (Network Time Protocol) server. In consequence of this fact, a connection to the internet must be present to reach those servers. Activate EIB clock feature by setting the „1. NTP server“ address.

HINT: FOR BEST PERFORMANCE, WE RECOMMEND TO ALSO AN ADDITIONAL SECOND AND THIRD SERVER.

Potential public NTP servers:

- Physical Technical Federal Institut **ptbtime2.ptb.de**
- Technical University of Berlin **ntp1-0.cs.tu-berlin.de**
- University of Erlangen **ntp0.fau.de**

The eibPort tries to reach the configured time server on a daily base. If connection attempt fails, eibPort starts another retry after a predefined interval. This routine repeats in an endless loop.

EIB telegram recorder filter rules

One of the eibPorts features is a ring buffer for storing the last 10,000 telegrams. To configure the recording rules for this ring buffer, the option „EIB telegram recorder filter rules” is usable. To record telegrams send to a specific group address, add a new rule to your setup and insert your chosen address.

To map a whole main or middle group address range, just replace the low-ordered address sections with an asterisk. (e.g.: 1/*, signifies all group addresses of the main group 1)

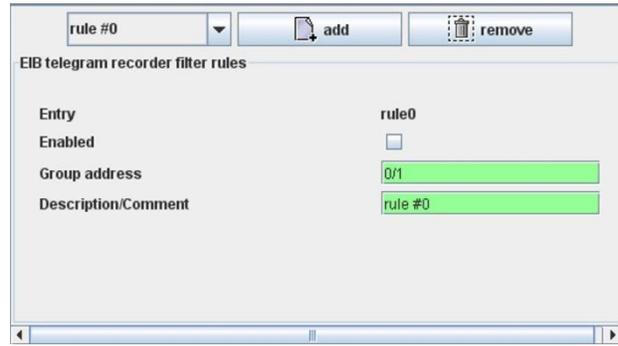


Figure 17: ConfigTool, EIB Telegram recorder filter rules

Email accounts

For the dispatch of emails are, beside configuration of email – jobs, more settings to be done. To send emails, an account for your transmitting email provider must be created. When start working with your new eibPort, you will recognize an already present provider. This one was set up by us and can be used for test purposes freely. A maximum of ten providers can be added. To create a new account, please click on add and fill the form with the details given by your provider.

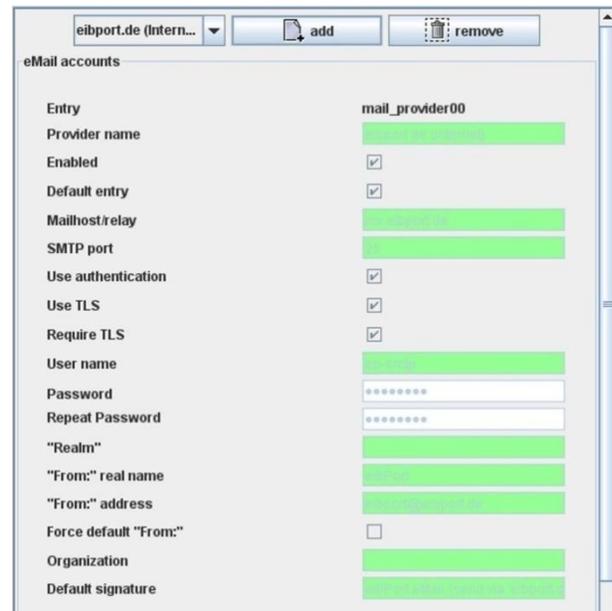


Figure 18: ConfigTool, Email accounts

HINT: FOR TEST PURPOSES OF NETWORK-SIDED INSTALLATION, TEST E-MAILS CAN SEND VIA THE ALREADY ESTABLISHED PROVIDERS. IF YOU ARE UNSURE ABOUT THE SETTINGS OF YOUR EMAIL PROVIDER, YOU BEST TEST THEM WITH ONE OF THE WIDESPREAD MAIL PROGRAMS (OUTLOOK OR THUNDERBIRD). SIMPLY CREATE AN ACCOUNT WITH THE SAME SETTINGS AND SEND AN EMAIL. IT IS TO BE NOTICED THAT ONLY SETTINGS CONCERNING THE OUTGOING SERVERS ARE OF INTEREST FOR USAGE WITH YOUR EIBPORT, SINCE EIBPORT IS ONLY CAPABLE OF SENDING EMAILS.

After saving these settings, your new account is ready for email transmission. To use it, select your provider in job editor.

Startpage

To satisfy your needs, the eibPort provides a full customizable homepage. To do so, select „Startpage“ from main register and choose one of the following options:

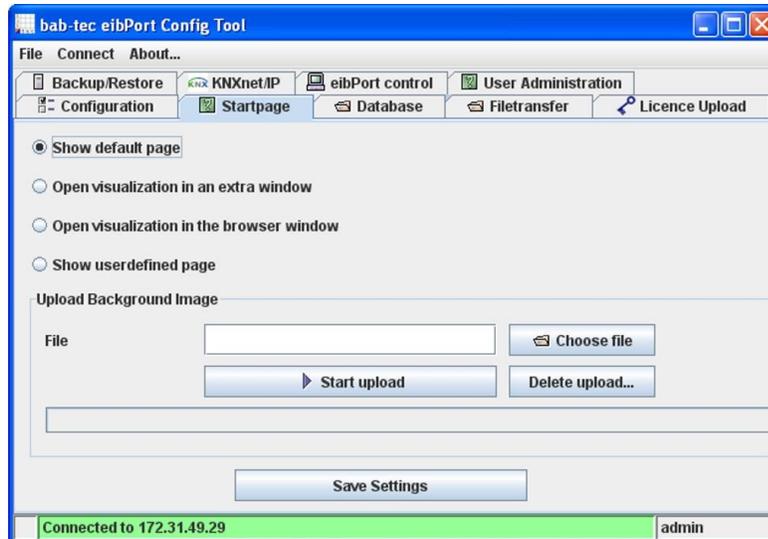


Figure 19: ConfigTool, Homepage

Show default page

The known home page with the buttons Visualization, Editor, System and the web start is indicated.

Open visualization in an extra window

The visualization is launched directly in a new window.

Open visualization in the browser window

The visualization is launched directly in the same browser window. No new window is opened.

Show user defined page

Start page is the background image you uploaded before. With this setting, the real visualization doesn't start immediately. You have to press „start“ to launch the visualization.

HINT: THE DEFAULT PAGE IS ACCESSIBLE REGARDLESS OF THE GIVEN PREFERENCES DIRECTLY UNDER URL [http://\"name/ip of eibPort\"/bmxJava2/default.html](http://\). To access visualization, open [http://\"name/ip of eibPort\"/bmxJava2/visuPlain.php](http://\) in your browser.

Login parameter

With an active user administration for the visualization, a user name has to be inserted. Otherwise the visualization is not able to start automatically.

When connecting to your eibPort, login name and password could directly insert into URL.

The following syntax is to be kept for the appendices of the parameters to the URL. The login data is shared by "&" of each other and is separated with a question mark "?" from the URL.

Example

eibPort: 192.168.2.1
Username: username=xxx
Password: password=yyy
Login: autologin=true / false

To allow more flexibility, an optional parameter „autologin“ could be used. With an auto login value set to „true“ no additional user operation is necessary. If set to „false“, username and password were automatically filled into login form, but user has to confirm the login procedure. The Default value is true.

Example URL:

http://192.168.2.1/bmxJava2/visuPlain?username=xxx&password=yyy&autologin=true

Database

eibPort can establish a connection to a database and write numerous info into it. Beside telegrams and the current states, log info can be recorded in database as well.

Create a database

First, select „database“ tab in your ConfigTool application. Open a popup menu by pressing your right mouse button when over bright area on the left side. Finally „Add Database connection“ creates a new entry and could be filled with your database connection information (Figure 20).

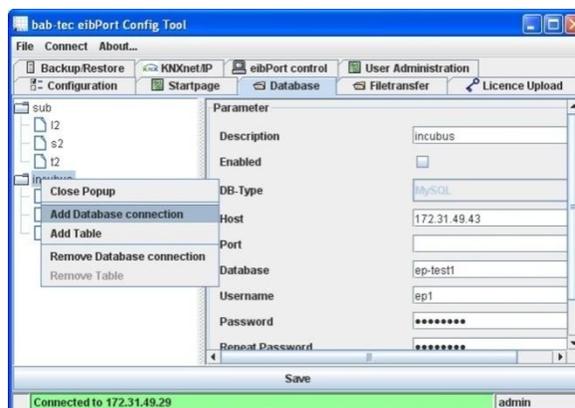


Figure 20: ConfigTool, Database

Available connection options:

Description	describing name for your database connection
Activation	activates and deactivates the database connection
Database type	eibPort only supports MySQL databases at the moment
Host	IP address of server where database is running
Port	Port for database communication. Standard port is 3306
Database	names of the used database
Username	username for database access

Password password for database access

HINT: USER NEEDS TO BE VALID OWNER OF MYSQL COMMAND INSERT, DELET, UPDATES, CREATE AND DROP FOR THE SPECIFIC DATABASE.

Your database connection is set up when „save” button is pressed. To use your database with eibPort, some tables have to be created, too. Open popup menu by pressing right mouse button again. Be sure to hit the correct database entry. Use „Add Table” to open a new table configuration page.

The following parameters have to be completed:

Description table description

Activation table can be deactivated by unchecking this option

Type eibPort supports three different types of tables (state, telegram, log), depending on desired message you are willing to record

Name table name within database

To choose specific information for recording, check/uncheck the desired rows in list below. See table 1 for all available information options.

State table

Actual states of all EIB group addresses and corresponding time stamps are recorded into this table type.

Among the rest, this table is necessary for Home Information Centre visualization. (Figure 21)

The screenshot shows the 'Parameter' configuration window for a 'Status Table'. The 'Description' field contains 'status', 'Enabled' is checked, 'Type' is set to 'State Table', and 'Name' is 's_table'. Below these fields is a table with columns 'Description' and 'Enabled'. The table lists various parameters with checkboxes in the 'Enabled' column, all of which are checked. At the bottom of the window is a 'Generate SQL statement' button.

Description	Enabled
System ID	<input checked="" type="checkbox"/>
SerialNumber	<input checked="" type="checkbox"/>
Group Address	<input checked="" type="checkbox"/>
Date	<input checked="" type="checkbox"/>
Telegram ID	<input checked="" type="checkbox"/>
Process ID	<input checked="" type="checkbox"/>
eibPort time	<input checked="" type="checkbox"/>
Initial time	<input checked="" type="checkbox"/>
Last time	<input checked="" type="checkbox"/>
Source Type	<input checked="" type="checkbox"/>

Figure 21: ConfigTool, Status Table

Telegram table

All real EIB/KNX telegrams (group address, value and time) send over your Eib network are stored into the telegram table. (Figure 22)

The screenshot shows the 'Parameter' configuration window for a 'Telegram Table'. The 'Description' field is empty, 'Enabled' is checked, 'Type' is set to 'Telegrams', and 'Name' is 'eib_tele'. Below these fields is a table with columns 'Description' and 'Enabled'. The table lists various parameters with checkboxes in the 'Enabled' column, all of which are checked. At the bottom of the window is a 'Generate SQL statement' button.

Description	Enabled
System ID	<input checked="" type="checkbox"/>
SerialNumber	<input checked="" type="checkbox"/>
Group Address	<input checked="" type="checkbox"/>
Date	<input checked="" type="checkbox"/>
Telegram ID	<input checked="" type="checkbox"/>
Process ID	<input checked="" type="checkbox"/>
eibPort time	<input checked="" type="checkbox"/>
Last time	<input checked="" type="checkbox"/>
Source Type	<input checked="" type="checkbox"/>
Source Address	<input checked="" type="checkbox"/>

Figure 22: ConfigTool, Telegram Table

Log table

General log information is recorded into „Log Table“. For example this could be information regarding the dispatch of SMS messages. The detail of those log messages can adjusted within the ConfigTool, too. (Figure 23)



Figure 23: ConfigTool, Log Table

Telegram Table	Status Table	Log Messages
System ID	Serial number	the eibPort time
Serial number	Group address	Relevanz
Group address	Data	Serial number
Data	Telegram ID	Source
Telegram ID	Prozess ID	Text
Process ID	eibPort time	Prozess ID
the eibPort time	Initialzeit	First time
First time	First time	Log ID
Source typ	Source typ	Repeater counter
Source address	Source address	
Routing counter	Routing counter	
	Update Counter	

Table 1 Database cell operands

To support you with creation of a suitable SQL database, eibPort is able to automatically generate a proper SQL command. Load this command into your SQL server and both database and tables were built automatically like configured before.

Instructions of Home Information Centre containing hints, on how to setup a HTTP and SQL server on an external computer.

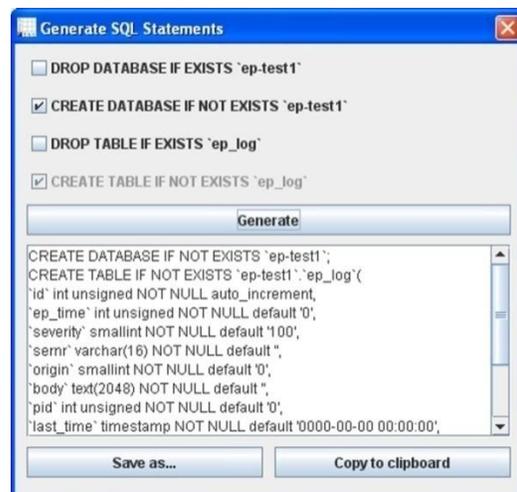


Figure 24: ConfigTool, Datenbank SQL Statement

File transfer

Images and graphics, eibPort components as well as ESF files can be uploaded into eibPort from this tab.

Images

To customize your visualization, the image formats jpeg, gif, animated Gifs, PNG are supported. To upload an image, press „Choose file” and select your image file in the newly opened dialog. To avoid mistakes, enter a unique name in the field "Description". By pressing "Start upload", the upload procedure begins and can be monitored by watching the progress bar on lower window margin. A complete line of all available images can be found in the list on the right side of view. Click on "Refresh list" to update the list. Actual, images are not allowed to be larger than 150 KB per image, 2 MB in complete.

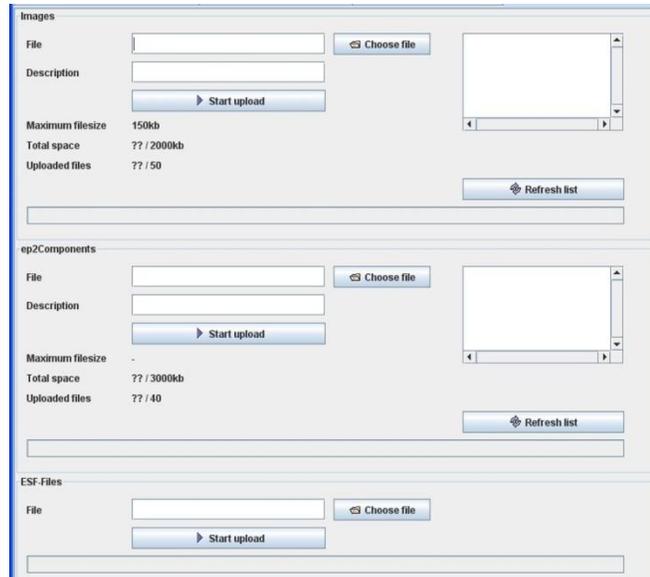


Figure 25: ConfigTool, File transfer

eibPort Components

Using the separate software „ComponentBuilder“, freely definable switches can be constructed. To upload such a component, click on „Choose File” and select the desired .btn file. Fill in a description for your switch and start the upload.

ESF Files

To simplify the allocation of group addresses for use with our editors, data from ETS projects can be imported. The address value table will then contain EIB group address and as well as descriptions available in ETS project. Have a look at ETS help system to find out how data from ETS can be exported to an ESF file (keyword: OPC export).

HINT: THE ETS EXPORTS ONLY LINKED GROUP ADDRESSES

To upload an ESF file into the eibPort, select the ESF file and start uploading the file. If an ESF file already exists, it gets overwritten with the new import.

License upload

Here the licenses of any Add-On products (e.g., Home Information Centre) of the eibPort can be administered. With the acquisition of the specific Add-On you receive a license file (file extension „.dat”) which must be uploaded into the eibPort.

Example

1. Open a connection to your eibPort.
2. Choose the „License Upload” tab (Figure 26)
3. Choose the path to license file and launch the upload
4. If transfer is completed without errors, license details are visible in the field below

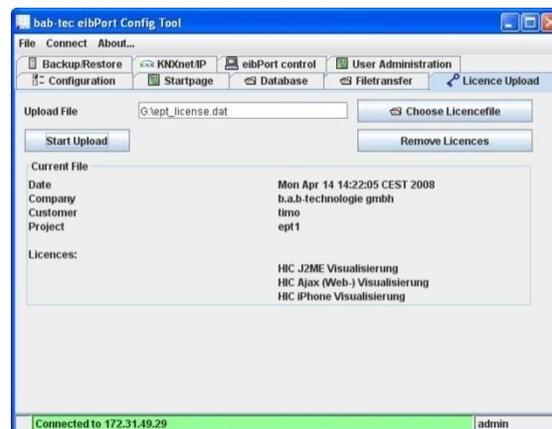


Figure 26: ConfigTool, Licenc upload

Backup / Restore

One of eibPorts feature is its backup system. The configuration files, as well as all jobs and visualization files incl. the images can be saved and recovered with a single operation. Also, a save and recovery of single data types is possible. The backup view is shown in figure 27. Like shown, eibPort stores three different kinds of data in one backup file. These are in detail:

1. Configuration
2. Jobs
3. Visu Project & Images

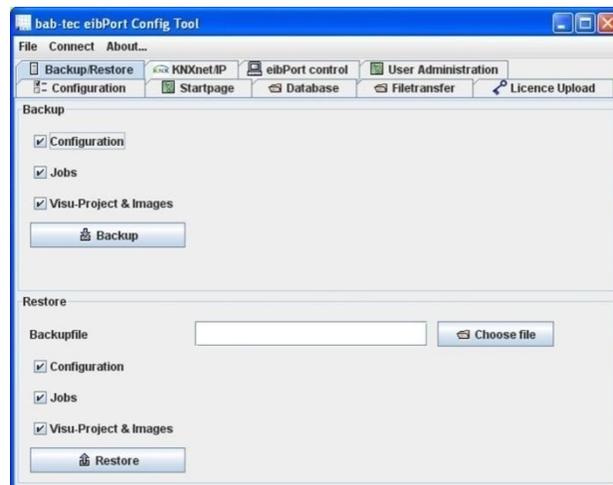


Figure 27: ConfigTool, Save/Recovery

Every setting accessible through ConfigTool is stored within the configuration data section.

Representing the „jobs” you have created before, the jobs section can be selected independently.

All images and data depending on your visualizations are organized in the visu section.

HINT: TO PREVENT DATA LOSS, MORE OFTEN BACKUPS SEEM REASONABLE

Backup

To create a backup from your eibPort, select the desired data types and press „Backup“. Choose storing file path and accept selection. The file extension of the backup file is „epb“ (EibPortBackup).

Recover

To recover a backup, just click on „Choose File“ and select the desired backup file. After confirming your decision, ConfigTool offers a choice of available saved data. With a click on „Restore“ the recovery procedure starts.

HINT: Towards the recovering procedure, eibPort has to reboot. This reboot will take some time (approx. 1 - 2 minutes). During the boot process the eibPort is not accessible.

KNXnet/IP

By selecting „Simple“, the complete telegram traffic is send from LAN to EIB/KNX and vice versa. To avoid telegram loss from much faster LAN side, up to 150 telegrams can be buffered.

If group address filtering is required on your installation, activate the „Advanced“ setting. Only group addresses which are entered in the suitable fields below will be routed.

Example:

To source KNXNet/IP to EIB
1/* → 1/*

Following the example, only group addresses of the main group 1 are allowed to reach the EIB network. For an even more advanced routing group address transformations can be done, too. See chapter Device coupling

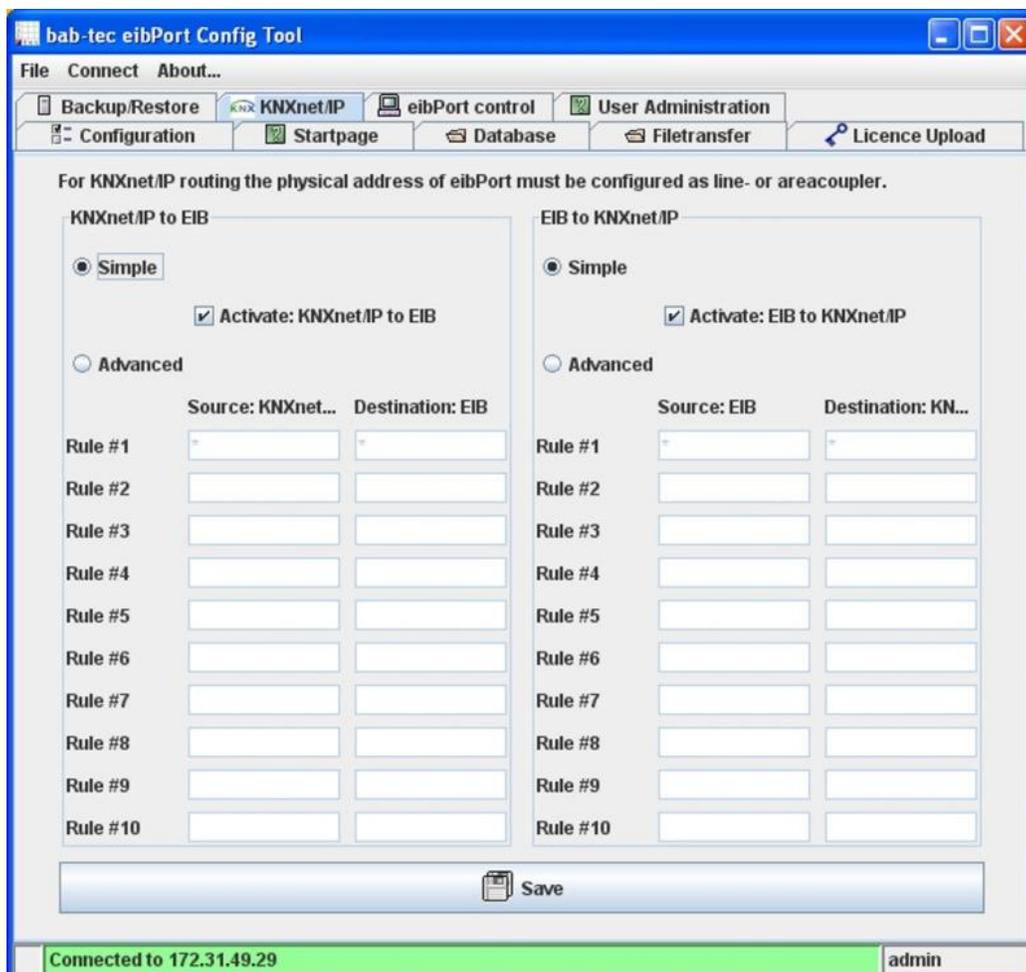


Figure 28 ConfigTool, KXNnet/IP

eibPort control

- LED Test:** test of signal-LEDs
- BCU Reset:** restart of BCU
- Soft boot:** restart of EIB core
- Cold start:** complete restart (corresponds to separation of power supply)



Figure 29: ConfigTool, eibPort control

User administration

It has to be noticed, that user administration in ConfigTool is independent of user administration in the **visualization editor (!)**. User rights defined in visualization editor control user access to projects and visualization pages. In opposition to that, user rights defined beneath the ConfigTool regulate access to the ConfigTool and associated configuration as well as the visualization editor on the whole.



Figure 30: ConfigTool, User Administration

Users create

Click on „Add User “ and enter the desired username (this name is user for login later on). With confirmation, the user is created first of all without rights.

Assign user rights

Press right mouse button on a users name and choose "edit" from object menu.

- User:** user description
- Username:** Username for registration purpose (defined while creating a new user)
- Password:** Password for the user registration
- Repeat password:** Repeated password input to be sure
- Change Password:** If checked, you will be asked to define a new password with every login
- Visible:** If checked, the username is indicated on a list during login



Figure 31: ConfigTool, User Configuration

Visualization editor: If checked, user is enabled to access the visualization editor. Username and password are required to log into visualization editor.

User administration: If checked, user is allowed to access the user administration of the ConfigTool. The following parameters define whether the user should receive access to the categories of ConfigTool. Select check box to enable access. Unchecked categories are blanked in ConfigTool.

- ✓ **Backup / Restore** Access to backup and restore capabilities of eibPort
- ✓ **eibPort control** Access to eibPort restart features
- ✓ **Data transfer** Access to upload features for storing images, components and ESF files
- ✓ **Configuration** In Configuration, different level for user access can be configure
 - not visible this parameter category is blanked
 - level 1 only the parameters which are necessary for the commissioning are displayed.
 - level 2 standard
 - level 3 advanced access
 - level 4 full access to all parameters is granted

To show possible levels for the different categories, just rest the mouse over the desired feature.

To confirm the new settings, press "Save" button.

Users delete

To delete a predefined user, press the right mouse button on the user name and choose "delete" from popup menu.

Editor

Menu:

Via the menu „File” the editor can be quitted or settings for representation, auto start, address representation, the eibPort clock and user administration can be changed through the „Settings” option.

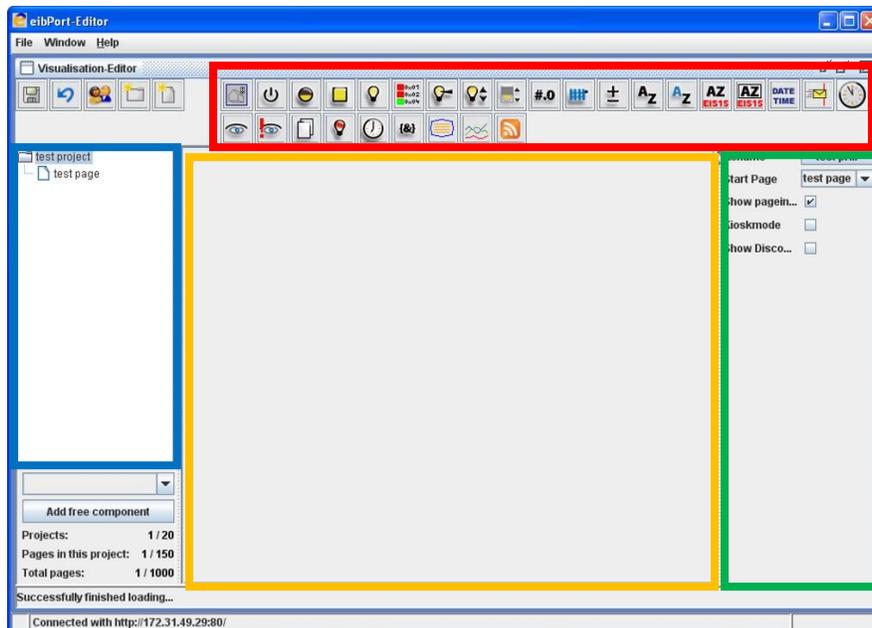


Figure 32: Editor

To choose an editor to work with, use menu item „Window”. The following editors are available.

- **Visualization editor** Projects can be constructed or changed from within this editor. To built a visualization, select visualization elements from menu bar and place them on your visualization page
- **Job editor** To create and maintain your services (jobs, use „Job Editor”.
- **Wap editor**
- **Home information centre**

Visualization editor

For easy access, the editor view is split into four subareas. (Figure 32)

- All available visualization objects are grouped and accessible through an icon bar on top of the editors' view. Click an object and it will be placed within visualization page. (red rectangular)
- The left area of the three areas below this object bar is designated for project summary. (blue rectangular)
- On the right side the configuration area is rested. Within this area project, page and visualization element parameters are maintained. (green rectangular)
- The main area is rested in centre of all. To build your visualization, place already added objects by dragging them with your mouse. (orange rectangular)

Project / page summary and parameters

To organize more than one project, all project data including subordinated pages is displayed in tree on the left of your view.

By choosing one of the available tree entries, the parameter view on right side of the editor changes accordingly, to allow easy access to project or pages parameters.

The following list should explain the project parameters in detail:

- **Name** Name of the project
- **Homepage** Page to show first when accessing a projects visualization
- **Show pageindex** By activating this function, an index is displayed next to the actual visualization page and permits direct access to every available page
- **Kioskmode** If checked, the visualization starts in full screen mode Full. This mode should be used, if visualization may not be closed down (e.g. devices with public access)
- **Show Discovery Problem** By checking this feature, problems during connection attempts are indicate from within the visualization

Possible sources of connection error could be:

- failure of supply voltage from eibPort, routers or other network devices
- physical separation of the network connection (dragged network cable)
- Faulty router, switches or other network components or configuration changes.

List of available page parameters:

- **Name** Page name
- **Width** Page width in pixel
- **Height** Page height in pixel

HINT: TO AVOID SCROLLBARS IN YOUR VISUALIZATION, MIND WINDOW FRAMES, WINDOW BARS AND TASK BARS WHEN CALCULATING SIZE.



Figure 33: Editor, Page Parameter

- **Background Color & Pattern** Select background image or color
- **Alignment** Define alignment of prior chosen image



Figure 34: Editor, Visualization Objects

Visualization objects

By clicking on a desired icon, a new element of that specific type will be placed in the upper left corner of your visualization page. To give a more advanced control of the selected element, the objects properties are displayed on the right side of view.

In addition to our prebuilt objects, own elements can be constructed fast and easily. The Component Builder offers numerous possibilities concerning an individual visualization and self-made function. New objects created by you can then be uploaded into the eibPort and are displayed in the lower bar of your visualization editor.

Instructions regarding the ComponentBuilder and how to create components can be taken from the ComponentBuilder manual.

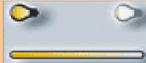
EibPort Component	Description	EIS Object	Values	Menu Icon	Visualization Element
Switch	The switch can be assigned a group address for On/Of switch telegrams.	1	1 Bit		
Dimmer Slider	Values between 0 - 100% (0-255) will be sent by moving the slider.	6	1 Byte		
		2	1 Bit		
Dimmer Switch	,Switching mode By pressing the switch the on/of command will be sent. ,Dimmer mode' By pressing the switch the lighter or darker switch command will be sent..	2	4 Bit		
Shutter	Raise/Lower	7	1 Bit		
	Blade angle	7	1 Bit		
	Mode: Wind alarm	1	1 Bit		
Status light	Displays the status of the given light.	1	1 Bit		
Camera	Pictures from a network camera can be displayed in a separate browser window or within the visualization. - See appendix 6: Camera.				
Link to Job-Editor	Allows to link to timers and light scenes to make them adjustable within the visualization.				
RSS Feed	You can enter an URL from a News website. The latest news are shown in the visualization				The text from the URL gets displayed.

Figure 35: Editor, Visualization Objects I

EibPort Component	Description	EIS Object	Values	Menu Icon	Visualization Element
Thermostat Value display	Displays the current and target temperature (EIS 5).	5	16 Bit		
Temperature value Setting	The temperature setting can be changed.	5	16 Bit		
Text, static	Static text used for creating labels on the application interface.		-		Depends upon the text which is entered within the visualisation editor.
Text, dynamic	Displays different text depending on the object value	1	1 Bit		Depends upon the object value of the group address which is entered within the visualisation editor. Color, font and font size can be set.
Jumper	Allows the user to switch between visualisation pages.		-		
Fault indication	If the preset group address is high (1), the page containing the alarm is brought to the foreground.	1	1 Bit		
Push button	Sends by every mouse click either on (1) or of (0). „Nur ein“ (only on) - only sends on „Nur aus“ (only of) - only sends of.	1	1 Bit		
Event Camera	If the preset group address is high (1), the current camera picture is brought to the foreground for 10 seconds. See appendix 6: Camera.	1	1 Bit		
Background image	In eibPort loaded pictures can be positioned freely. The background picture can also be switched by a group address from EIS-typ 1		(1 Bit)		
Logic panel	Indicates the result of a logic operation parameterized in the Job editor	1	1 Bit		
EIB Monitor	Opens a window that lists all sent and received telegrams				

Figure 36: Editor, Visualization Objects II

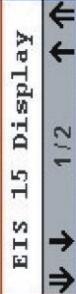
eibPort Component	Description	EIS Object	Values	Menu Icon	Visualization Element
Textdisplay	The text display shows received test messages. The text information can be sent to other text or EIB displays, too	15	14 byte Text		
Bit Panel	Indicates the status of the single bits of a telegram. Each bit can be shown/hidden. The colours for the states can be chosen. Each bit can be labeled. The single bits can be sent. Application: Indication of the status of e.g. a heating device sending a status byte (EIS 14).	14	16 bit		
Diagram	The diagram shows the courses of values. One diagram can represent up to 3 curves, which can be formatted individually. See the following pages.	5 6 9 1	1,2,4 byte		
clock	display the time in form of an analog clock.	3	3Byte		
EIS 15 text	the element EIS 15 Text shows the text of a EIS 15 group address. The representation of the text is carried out transparently without frames, font, size and color can be chosen freely.	15	14 byte text		EIS 15 Text
Value display	Display and change various EIS values Format: ##.## : Required digits are displayed Format: 00.00 : All digits are displayed	5 6 11	16 Bit 8 Bit 32 Bit		

Figure 37, Editor, Visualization Objects III

Hints regarding the visualization editor

Transparent switches

Switching elements can be displayed transparent. Thereby elements lying behind a switch are visible. Thus affords switches to be displayed with own images.

Background image

After creation of a new page, change of background color or an image upload can be done through parameter area. Please be economical when working with images, as they need a lot of memory for storage.

HINT: QUIT THE EDITOR AND LAUNCH IT ONCE AGAIN TO BE ABLE TO SELECT A NEW LOADED IMAGE AS WALLPAPER.

Page size and resolution

The page size of a visualization project can be freely chosen and be adapted to the destination resolution of the visualization client. On account of the window borders of your browser, the page size of the visualization has to be adjusted.

Names of projects and pages

Projects and pages can be freely chosen. Projects and pages are alphabetically sorted in the visualization editor within a tree structure.

Copy, insert, delete

Visualization elements can be copied with all associated settings. Use your right mouse button on an element to choose copy, insert or delete. Alternatively the keyboard shortcuts STG-C are available for copying and STRG-V for inserting elements. To remove elements, the delete key can be used as well.

Elements pixel-exactly position

The elements can be pixel-exactly positioned within your visualization page with use of the arrow keys of your keyboard. If the desired X and Y positions are known, pixel values can be entered through the parameter area too. The arrangement is top-left oriented, setting the origin ($X = 0$, $Y = 0$) in the upper left corner of a page.

Group addresses assign

Group addresses can be given directly or could be pasted from the address list by mouse. If you have loaded an ESF file, (see chapter Configuration tool, File transfer) all group addresses available in the ETS project with descriptions are listed in the address list. To reach the address list, press the arrow icon beside the address input field. In order to select an address, you have to double-click. To confirm your decision, press the „OK“ button.

Job editor

The job editor supports numerous services, which can be created and configured with this editor. Like projects and pages in the visualization editor, job categories are displayed in a tree like structure on left side of your main view. The representation can become advanced / reduced with the key icon in front of a row. To add a new job, hit the appropriated menu icon or press right mouse button.

Up to the weekly-clock job all the other jobs have two common input fields, **Element name** and **release property**. The element name should be used to explicit define a jobs name. The release property of an optional job could be used to disable/enable the jobs feature by receiving an EIS1 value from EIB installation. (0 means disable, 1 enables the job)

Possible jobs are:

- **Logic** All logic gates connect EIS 1-values
 - Logical gate outputs can become customized to send output values whether
 - * the state of an output has changed
 - * with every new entrance telegram at the input of the logic
 - Furthermore, gates can be configured to transmit output values
 - * on all values (ON and OFF)
 - * only on one value type (ON or OFF)

Logic	Description
AND	Up to 32 inputs can be connected; each input value has to be „true” to generate an output value of „true”, else the output value is „false”
OR	Up to 32 inputs can be connected; at least one input value has to be „true” to generate an output value of „true”, else the output value is „false”
XOR	Up to 32 inputs can be connected; an odd number of inputs has to be „true” to generate an output value of „true”, else the output value is „false”
OBJECT	Last input value changed is directed to output
NAND,NOR,NXOR	Calculation like samples above, output has to be inverted
NOBJECT	Last input value changed is inverted and directed to output

Table 2 Editor, Logic Gates

HINT: TO AVOID MISTAKES, ONLY ACTIVATE THE INPUTS YOU REALLY NEED!

- **Timer** the eibPort provides timer on a weekly or annual base
 - Weekly timer to configure your job, a 24 hour profile could be used. To allow more control over your timer, week days and special days can be differed. While deciding when to start a task, you have to click once with your mouse on the given timeline. By contrast, a time to end a task is defined by pressing the mouse button twice. To delete an already set time, press your mouse button three times. Per channel (group address) one release

property can be defined. This can contain up to five group addresses. A day profile could be used with the annual timer for repeating use as well.

- **Annual timer** The annual timer is not only capable of setting release states, it is also possible to send special events to a weekly timer.

Link with Weekly timer: Select your desired mode and mark the corresponding time on the time line. Delete a profile by choosing „inactive” with the profile you are willing to delete. A connection is complete, if you link your annual timers’ group address with the input of the weekly timer.

Set active/inactive state: By using this mode, an EIS1 command can be released. Dye the desired day in red to cause an EIS1 „ON” command to be sent. To send an „OFF” command, choose the blue color.

NOTICE: ANNUAL TIMER EVENTS ARE ALWAYS RELEASED AT 0:00 O’CLOCK THE DAY YOU’VE SELECTED.

- **SMS** To notify someone on a special event, eibPort is capable of dispatching SMS messages. To trigger the SMS dispatch, a group address has to be linked to the jobs input. Like logic jobs, SMS dispatch can be configured to react on an „ON” or „OFF” command as well as on rising/falling edges of a received command. Not only plain text messages can be sent, but it is also possible to include the actual value of any group address, known by the eibPort.
- **Delay** Gate with in- and output. Same value received at input is send with a delay on the output. Time period for the delay can be adjusted from 1 to 65.000 seconds.
 - time period could be chosen from 1 to 65,000 seconds
- **Stair light** If an „ON” telegram is received at the input, the output will automatically send an „OFF” command after a given time period.
 - time period could be chosen from 1 to 65,000 seconds
 - if „stop” is checked, an „OFF” command send to the outputs group address will stop the process
 - if „invert” is checked, the whole process is inverted. „OFF” send to the input starts the process, „ON” will be send after time period
 - if „trigger” is checked, the process will restart with every new incoming start command
- **Light scene** Up to 28 EIB devices can be grouped in one light scene. If this scene is triggered, predefined individual values will be send to each of the devices. Light scenes can be configured to trigger on both, „ON” and „Off” commands. Thus one EIB group address can be uses to start two different light scenes.

To set new desired device values, another group address could be use. If triggered, the current values of all devices will be set as new light scene predefines. The old values are getting lost during this operation.

HINT: TO AVOID PROBLEMS, ONLY USED OUTPUTS SHOULD BE CONFIGURED.

- **Date / Time**
 - **Receive** The eibPort is able to receive time telegrams (EIS 3) and date telegrams (EIS 4) from within the EIB/KNX. This information could be used to set the internal system clock. If deviation of eibPorts system clock is too large, it gets corrected automatically. Alternatively the internal clock can be also synchronized from a NTP time server.
 - **Transmit** The eibPort is able to act as time and date server for EIB/KNX devices. Interval of time disposal is configurable as favored.

HINT: Usually, timer setting and light scene definitions could only be changed from within the job editor. To allow end customer access to these options, visualizations could be linked with the job editor by placing a link object inside of favored visualization page. As link target choose timer and/or light scene. The user is now able to configure timer and scenes as will.

- **Threshold** The threshold job monitors an EIB value and offers two ways to trigger an event. In addition, an upper and a lower limit can be configured. If monitored value is beyond this range, one of the following two events is raised:
 - Below lower threshold
 - Above upper thresholdTo avoid high bus traffic in succession of an ongoing level exceeding, two mechanisms could be set up. First, a dead time value could be set. An exceeding value has to last for this time interval to throw the appropriated event. Secondly, a repeat interval could be defined. If value is still out of threshold borders, the event gets thrown again after this predefined time. This will repeat until value is in range again.
- **Hysteresis** The hysteresis job is a comparator with two thresholds. If a new value receives at the input, this value is compared to the upper and lower threshold. As a result a binary value (0 or 1, EIS1) will be sent to the EIB/KNX. Unlike the threshold job, the hysteresis threshold levels could be set at run time by linking with desired group addresses. In dependence of the last calculated state the new hysteresis curve is computed according to the following definition:
 - If last calculated result is 0, the output state changes to 1 if the received input value exceeds the upper threshold. If the last result is 1, the output state changes to 0 if the received input value falls short of the lower threshold.
 - The upper and lower threshold can be set to be constant or changeable through own input values.

- The calculation of the hysteresis is newly started, when a new input or threshold value is received. The calculation of the hysteresis depends on the given EIS-Type.
 - If EIS-Type is set to „nothing“, the constant threshold value is taken for consideration.
 - Otherwise, the threshold level is calculated by multiplying the input value by „Factor“ and adding „Offset“ to the result. If exceeding the „Min“/„Max“ boundary, the result gets adjusted to fit these settings.
- With these ascertained values for input, upper and lower threshold, the current output state is computed.

Should output state change as a result, the output value is send to the EIB/KNX network. If no state change occurs, a new message is only send if option „transmits only on state change“ is unchecked.

- **Email**

Beside SMS dispatch, the eibPort is also be able to send emails if predefined EIB/KNX events arrive. To configure your email transmission, the following options are available:

- Input Object An incoming EIB/KNX message to this object will trigger the email job.
- Data Object An additional EIB/KNX value can be embedded in the email body. Use „Factor“ and „Offset“ to adjust value. For details on how to embed additional data, have a look at attachment 2.
- Terms of sending To dispatch an email, chose one of the following cases: „changing edges“, „OFF“, „falling edge“, „ON“, „rising edge“, „ON or OFF“ and „rising or falling edge“
- email provider Select a provider for delivering your email. Notice, that a valid provider entry has to be created within the ConfigTool
- Subject/Text Edit subject and text as in an regular email

NOTICE: TO USE THE EMAIL FEATURE, A VALID EMAIL PROVIDER HAS TO BE CONFIGURED AND A CONNECTION TO THE INTERNET HAS TO BE MADE

- **UDP** The UDP transmission job enables the eibPort to send any ascii or hex datagram

within the LAN. Up to eight messages could be delivered with one job. To address a recipient insert IP address and port.

IRTrans message example: SND <REMOTE>,<COMMAND>,<LEDSELECT>

- REMOTE device name given through command learning procedure
- COMMAND irtrans command description, e.g. play
- LEDSELECT use Internal, External or Both LED on irtrans

- **xPL**

Beside UDP, eibPort is able to send xPL datagram's too. Other xPL devices will receive these messages and use them as intended. In this context an example is the control of a slimserver device. To handle an EIB/KNX message as a trigger, EIS 1 or 14 values could be used. By using EIS14 values, up to 256 different xPL commands could be addressed. The xPL job offers options, which some will be explained now:

- Wildcard If activated, the xPL command is send with every incoming EIB message on the desired input.
- Trigger Value If incoming EIS value matches the given Trigger Value, this xPL command is send
- xPL broadcast If xPL broadcast is checked, the xPL command is send to all available xPL devices at same time. Thus, for example, enables a group of SlimServer to start or stop simultaneous.
- Manufacturer/ Device/Instance These settings represent the address of an xPL device. Use xPL-Hal Manager to retrieve the right values for configuration. Notice, a valid name is not allowed to exceed a maximum of 15 characters.
- xPL Scheme The xPL scheme identifies the device type and thereby the possible commands are reduced to a handy choice. Some Devices, like SlimServer for example, are able to support more than one scheme. E.g., use „Audio.Slimserv“ to control the flow of your music and „OSD.Basic“ to control the SQUEEZE Box display.
- xPL-Command Choose which kind of action should be executed on receiving device.
- Additional Data Some xPL messages need additional data. As an example, the name of a desired playlist must be given when using „Audio.Slimserv/Play list“ command.
Some of the available commands are marked with a „Value“ tag. If so, use „%f“ to insert an objects value into the target string.

- **SlimServer** eibPort is able to receive title information, send by an active SlimServer. This job

converts the information and sends a relative EIS15 string on your EIB/KNX installation. See attachment „9 xPL Requirements“ for details.

- xPL broadcast Convert datagram of any SQUEEZE Box
 - xPL Instance The xPL-instance determines which SQUEEZE Box acts as source for conversion. This differentiation makes it possible to evaluate the title information of only one SQUEEZE box also with several SQUEEZE boxes on the network. Again, a valid name is not allowed to exceed 15 characters
 - Outputs Choose EIB group address, on which the information will be send. EIS value for this string is 15.
 - Modus It is possible to display the message in different kinds. (Only the following options are supported at this time)
 - Left-aligned
 - Right-aligned
 - Speed Used to set scrolling speed. (Not yet supported)
- **Remote.BASIC** The eibPort is not only able to send xPL commands for control, it is also possible to receive such a datagram. This job is used to convert these control commands and send them on the EIB/KNX installation. Provided the controlling xPL device supports the Remote.Basic scheme.
 - xPL Broadcast Convert datagram of any xPL device
 - Zone Broadcast If checked, datagrams from all zones are converted. If unchecked, only the zone with the given name is active.
 - Terminal Broadcast Convert xPL datagram of any terminal device on the net
 - Powerstatus Decide on which powerstatus the transmitting device should be. Available options are:
 - Device has to be in „ON“ state
 - Device has to be in „OFF“ state
 - „Don't care“
 - Transmission mode Choose which message is send to the EIB/KNX.
 - EIS1 „toggle“
 - EIS1 „ON“
 - EIS1 „OFF“
 - EIS14 Value of the execution (1..14)
 - EIS15 Key Code
- **IRTrans** This job enables the eibPort to control your EIB/KNX with the help of a regular IR

remote control. To use your IR remote control, an IRTrans device is required.

- Port Number Use this port number for connection with IRTrans
- IRTrans broadcast If checked, all IRTrans devices will be able to control your equipment. If unchecked, only the IRTrans with the given name is watched.
- RC broadcast If checked, all remote controls defined in a IRTrans device will be able to control your equipment. If unchecked, only the remote control with the given name is watched.

NOTICE: CREATION OF REMOTE CONTROLS AND LEARNING OF IR COMMANDS IS DONE THROUGH THE IRTRANS-SOFTWARE. BESIDES, NAMES FOR REMOTE CONTROLS AND COMMANDS WILL BE ASSIGNED AT THIS PLACE TOO. THESE MUST BE KNOWN WHILE CONFIGURATING THE IRTRANS JOB.

IRTrans could be configured by using your browser with the IRTrans IP address. Check settings "IR Relay Configuration". A good default setting is:

- port UDP 21001
- Broadcast address 255.255.255.255
- activate UDP relaying

HINT: TO AVOID MISTAKES AND TO ENLARGE THE FLEXIBILITY, IT IS ADVISABLE FOR THE USE OF SEVERAL IRTRANS MODULES TO LOAD EVERYTHING WITH THE SAME DATABASE. THIS HAS THE BIG ADVANTAGE THAT IN EVERY IRTRANS ALL ESTABLISHED REMOTE CONTROLS WITH ALL POSSIBLE COMMANDS EXIST. PARTLY COMPLICATED TRAINING OF THESE COMMANDS MUST BE DONE THEREFORE ONLY ONCE.

- **UDP Receiver** The UDP Receiver job is used for receiving of UDP datagrams and converting them for use with the EIB/KNX. These UDP telegrams must not be transmitted necessarily by an IR trans-module, but can also be send by other machines, e.g. from a PC within the network.

To get these UDP datagrams across the eibPort, a predefined syntax has to be followed:

<NAME OF REMOTE CONTROL>, <NAME OF COMMAND> RT LF

Both placeholders ("*name of remote control*" and "*name of command*") stand for a freely elective character string. These strings must be closed by a return and a line-feed symbol.

Example: live, bright 0d 0a

- **Comparator** This job compares the value of a group address to that of another group address or to a fixed value. Depending on whether the compare condition is "true" or "false", different values can be transmitted.

- **Input 1 and 2** Both inputs are compared with the comparative operator and accordingly the result is transmitted. If static is checked for an input, the comparative value is taken from the adjoining text field instead of an actual EIB value.
- **Comp. operator** Compare the input values for
 - „=" equality
 - „<>“ diversity
 - „>“ greater
 - „<“ less
 - „>=“ greater or equal
 - „<=“ less or equal

With every new incoming value the comparison is trigger anew.

- **Output** Depending on the comparison result, new output values are „true“ or „false“
 - **Static** Instead of a computed value, the value of the adjoining field is used for output
 - **Dynamic output** The output has no solid fixed. As an initial value one of the following values is used:
 - triggering telegram (input 1 or 2)
 - the last telegram of input 1
 - the last telegram of input 2
 - **Only on changes** Output message is only send if output state is changing. If this entry is not checked, the output value is transmitted again after every renewed operation.

- **Wake On LAN** With the job a „Wake on LAN“ command can be send up to 8 PCs or other devices
 - **Actively** Choose to activated an entry
 - **Wildcard** If chosen, WOL commands are send with every incoming message
 - **MAC** MAC address of device
 - **Transfer Type** Default value is UDP broadcast. To avoid problems with existing router, unicast could be chosen as well
 - **Broadcast IP** Destination address
 - **UDP Port** Destination port

Hints regarding the job editor

Copy, insert, delete

Jobs can be copied with parameters. Press the copy icon and a new job will be created with the existing parameters. If done, chose a new job name and confirm the operation.

Rename

Projects, pages, elements and jobs can be renamed at any time. The listing is sorted alphabetically.

Group address assign

In any case, group address values can be given directly or can be chosen from the address table.

If an ESF file is already uploaded, every group address is shown with additional description. To open up the address table, press the arrow symbol next to address field. If list is open, the required entry could be chosen by pressing your mouse button twice. Confirm with „OK“.

WAP editor

The eibPort is able to handle connections via WAP. Please see attachment 4 for mobile phone parameters.

To create or delete pages and objects for use with your mobile phone, use the buttons on left side of the WAP editors view. Every object only contains of a name and group address (EIS1) you are willing to control. See attachment 4 for WAP preferences. For necessary WAP settings consult the manual of your mobile phone.

Home Information Center (HIC) editor

The Home Information Center is a visualization of the eibPort in Windows Media Center, Apple iPhone and iPod touch, as well as on mobile phones with a Java-Script enabled web browser. Thus offers the easy control of your lights and temperature, embedding of your IP camera views and the control of your multimedia equipment through your TV screen. For installation instructions of the HIC, have a look at the HIC manual.

Construction of the Home information centers editor

The Home information centre consists of views, folders and elements. (Figure 38)

Views

Views are visible when the HIC is started the first time. These views contain folders and elements in a tree like structure, which can be created as arbitrary.

Folder

Folders are the second level of the organization structure. It is possible to create structures of any depth. (folder -> sub-folder -> sub-sub-folder -> element)

Element

To control a device, an element can be used. Every element consists of an EIB/KNX group address for receiving and a checkbox for enabling the send feature for the same address. While this box is unchecked, message values are only displayed; control is not possible at this time.

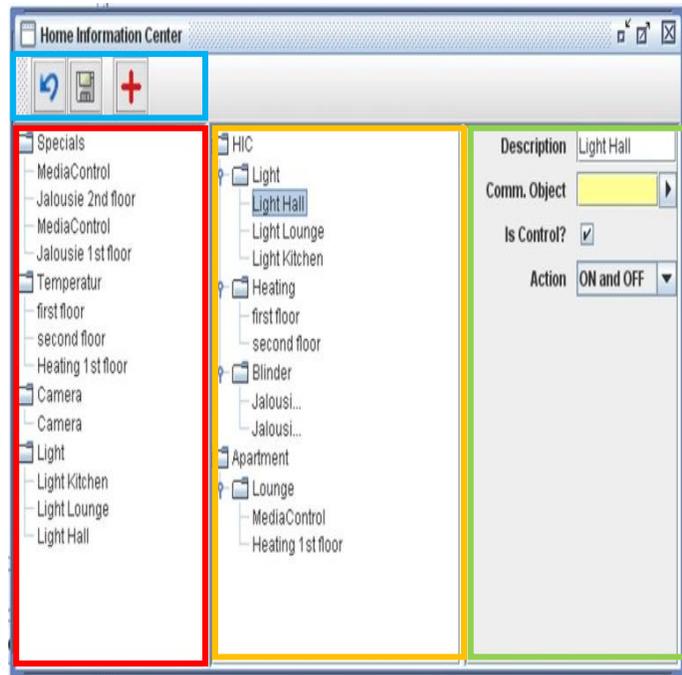


Figure 38: Editor HIC

Home information centre editor

HIC projects can be organized and edited from within this editor. Likewise the other editor types described in chapters before, the HIC editor is started through the eibPort homepage.

Nearly the complete editor is controllable by using your mouse. E.g. the assignment of nodes and elements can easily be done by dragging & dropping the entries. Use the following areas to configure your project.

- **Menu bar** (Figure 38, blue rectangle)

Via the menu bar the following commands are quickly accessible.

- Arrow Icon Download the current HIC project from the eibPort.
- Disc Icon Upload the current HIC project to eibPort.
- Plus Icon Adds a new element to your project

- **Element View** (Figure 38, red rectangle)
In the element overview all elements which were constructed are listed and grouped by their types. Via the menu bar or the Popup menu, new elements can be added. Arranging the elements in the project view can quite simply be done by a drag & drop operation with your mouse.
- **Project view** (Figure 38, yellow rectangle)
The projects folder structure is shown in the project view of your editor.
- **Parameter** (Figure 38, green rectangle)
Parameters of selected elements are displayed in this view.

Available element types

- **EIS 1 on/off** If „is Control?“ is checked, a device can be switch on/off from within your WAP device, unless the state of the device is only displayed.
- **EIS5 temperatures** EIS5 elements contain an actual and a reference value. If „is Control?“ is checked, a change of the reference value is possible by clicking on the +/- buttons.
- **EIS5 floating point** EIS5 values are displayed. If „is Control?“ is checked, additional max- / min values as well as an increment can be used for control.
- **EIS6 Value 0-100%** EIS6 values are displayed. If „is Control?“ is checked, additional max- / min values as well as an increment can be used for control.
- **EIS14 Value 0-255** EIS14 values are displayed. If „is Control?“ is checked, additional max- / min values as well as an increment can be used for control.
- **Camera** Shows a network cameras view, in addition the URL of the desired camera must be given
- **Blinds** Element for control of a blind or roller shutter
- **Media Control** Element for control of a media player.
- **List** Element for starting playlists (e.g., from SlimServer)

Visualization

To have a graphical view of your installations actual state and to have control over your system, the visualization could be used. Start your visualization by accessing your eibPorts homepage with your favorite browser and pressing the visualization button. Your visualization is run in a new java applet.

Thus the use of applets is very restricted, an alternative option to start your visualization is Webstart. The following chapter is demonstrating the use of webstart:

Web start

NOTICE: A REQUIREMENT FOR THE USE OF WEBSTART IS THE ACTIVATION OF JAVA CACHE IN YOUR BROWSERS OPTIONS.

How does Webstart work?

Beside Java applets, the eibPort visualizations and editors are accessible through Java Webstart. In advantage, the start procedure of all applications could be highly accelerated, because only new parts of an application need to be transferred. That is to say some data that is not changed (e.g. Images, Backgrounds and program code) gets stored locally on your computer and is started from there. Additional there is no need for an extra browser, thus reducing the memory usage of your computer.



Figure 39: Web Start

Working with Webstart

To use Webstart, choose „Webstart“ on eibPort homepage and you will be redirected to the suitable page (Figure 39). The IP address or host name as well as the http port number are automatically entered. Review these settings and confirm them by pressing the „Install“ writing.



Figure 40: Web Start, "open" Dialog

As a next step, you have to confirm the opening of the „.jnlp" file. The „.jnlp" file is a configuration file of Java Webstart applications. Now the data is downloaded and stored on the hard disc drive of your computer. A desktop shortcut and a start menu entry are created at the end of the installation process, which allows the easy start of your visualization and editor.

To locally delete the Webstart files from your computer, only temporary files of Java have to be deleted (control panel / Java).

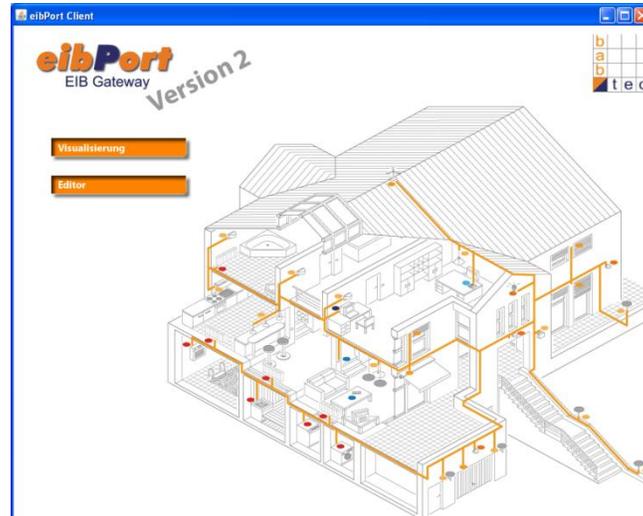


Figure 41: Web Start, Homepage

Attachment

DiscoveryTool

DiscoveryTool is a small application, which could be found on the provided CD in folder „...\Discovery Tool \ “. The file, noticeable by a jar extension, doesn't need to be installed, but can be executed directly by right clicking on „ open with ... “ and choosing „Java“.

The tool indicates every active eibPort on the net. In addition to unequivocal identification, the name and the serial number of the eibPorts will be displayed.

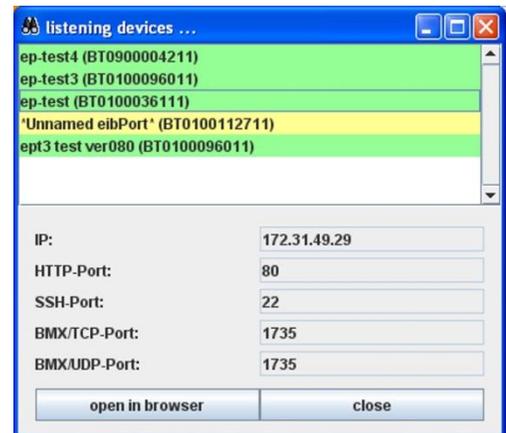


Figure 42: DiscoveryTool

Every active eibPort is registered in a list and hence can be selected for further usage. If so, details regarding this selected eibPort are displayed in the lower text area. To provide even more information, the device lines on the list are dyed in different colors, depending on their state of accessibility:

- **GREEN** eibPort is accessible
- **YELLOW** eibPort is in another address range

If eibPort is not in the same address range and therefore is not accessible

Choose the yellow entry. A message will appear and indicate that the device is not in the same address range as your computer. After confirming this message, the IP address of the eibPort is displayed. If desired, this information can be used to change your computers IP address. After configuration of the eibPort, your computers IP could be restored.

Example:

IP Address eibPort **192.168.1.1** (as indicated in DiscoveryTool)

IP Address computer **192.168.2.10**

With these settings no communication is possible. E.g. an address of 192.168.1.10 would enable the communication.

Java

Download

The Java Runtime Environment (JRE) is available for download from [www..](http://www.java.com) Requirement is JRE Version 5.0.

Install

Execute the setup file. Java will install automatically.

Parameter

Standard language and memory usage for Java can be configured.

These options can be found within the Java control panel. Open up the control panel (start-> settings-> control panels) and double-click Java system properties.

Chose the Java tab and select "Java applet-run time settings". Open the configuration table and all available JREs will be displayed. The most important parameters are:

- -Xmx128M Assures least 128 MB of memory
- -Duser.language=de default language (de=German, en=English)

Both parameters can be stated one after the other, separated with a space character.

The following languages are support by the eibPort at this time:

- German = de
- English = en
- Swedish = se
- French = fr
- Spanish = it
- Italian = it

Close Java control panel with OK. Close your browser and all the other application which use Java. The new settings are ready to use with a restart of relevant applications.

HINT: IF YOU HAVE INSTALLED SEVERAL JAVA VERSIONS IN THE COURSE OF TIME, MAKE SURE THAT YOU HAVE REGISTERED THE PARAMETER WITH ALL VERSIONS.

DynDNS

Every device connected to the internet (and that is not able to use a static IP address) will be provided with a dynamic IP address from the Internet service provider (ISP) automatically. Mostly, the address changes with every new connection. Therefore, the routers (and eibPorts address as well) new dynamic address is not known to the outside world. Even if the router is configured to be always connected to the internet, some providers will separate the connection automatically after 24 hours.

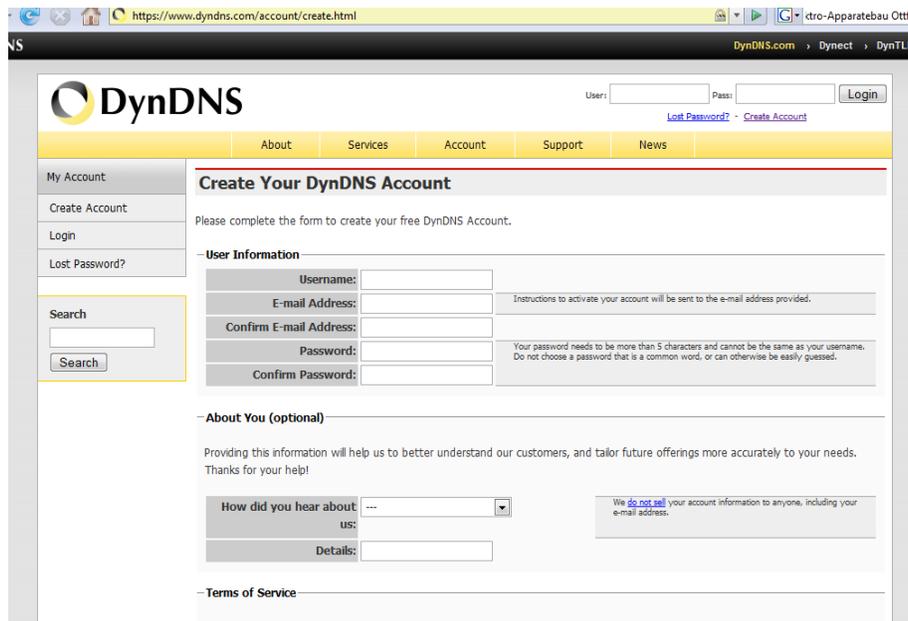


Figure 43: Create DynDNS Account

Free services available on the internet (e.g., dyndns.org) are able to link the dynamic IP addresses with a domain. To reach your local network from outside, just use the domain name you're registered (e.g., yourName.dyndns.org). Requirement for this feature is a router, which will auto connect to the internet and provide the DNS service with the actual address.

Connection of an eibPort to the Internet at an example with dyndns.org

1. Step Registration with dyndns.org

At first you have to create a new DynDNS (www.dyndns.org) account.

Choose „Create Account“ and enter your user information into the registration form. Accept terms of condition and close the registration process. A link for approval is send to your email address and has to be confirmed.

After you have confirmed your account, you are able to log in and create your own host name.

Want advertisement-free web redirections? Consider an [Account Upgrade](#).

Add New Hostname

Note: You currently don't have Account Upgrades in your account. You cannot use some of our Host Service features until you buy an Account upgrade that make this form full-functional and will add several other features. [Learn More...](#)

Hostname: home.dyndns.org

Wildcard: Yes, alias "*.hostname.domain" to same settings.

Service Type: Host with IP address
 WebHop Redirect
 Offline Hostname

IP Address: [Use auto detected IP address 212.37.48.125](#)
TTL value is 60 seconds. [Edit TTL](#)

Mail Routing: Yes, let me configure Email routing.

Figure 44: DynDNS, add Host Name

2. Step: DynDNS setting in your router

To enable external access to your eibPort, your router has to be set up accordingly. Most of the actual routers are supporting the DynDNS login. To find out if your router is supporting this feature, have a look at the router manual.

If DynDNS is supported, open the proper configuration dialog and fill all required entries with the details given during your DynDNS registration. For test purpose, try reaching the new domain by running a small test application. Open your windows shell by pressing „Start” and executing „cmd”. Next write „ping” followed by the domain name given from DynDNS provider. If router replies to this command, the assignment of IP address and domain name has succeeded. (Figure 45)

```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\Administrator>ping 172.31.49.29

Pinging 172.31.49.29 with 32 bytes of data:

Reply from 172.31.49.29: bytes=32 time=4ms TTL=64
Reply from 172.31.49.29: bytes=32 time<1ms TTL=64
Reply from 172.31.49.29: bytes=32 time<1ms TTL=64
Reply from 172.31.49.29: bytes=32 time<1ms TTL=64

Ping statistics for 172.31.49.29:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 4ms, Average = 1ms

C:\Documents and Settings\Administrator>
```

Figure 45 "ping" command

3. Step: Open ports and enable „port forwarding" for eibPort access

To enable external access on your eibPort, ports 1735 (tcp and udp), 22 (ssh) and 80 (http) have to be opened and „port forwarding" has to be enabled in your router options. From this point, all incoming traffic on these ports is directly sent to your eibPort. All other devices on your network are uninvolved.

See your routers manual for details on how to use port forwarding on your special device. In most cases, the IP address of forwarded destination and ports are necessary for activation. An example configuration is shown in Figure 46.

4. Step: Registration of the routers IP address in the eibPort

At last, check your eibPorts setting for valid default gateway entry. Open up your ConfigTool and choose „network setting” from available list. The default gateway entry should be identical with your routers IP address.

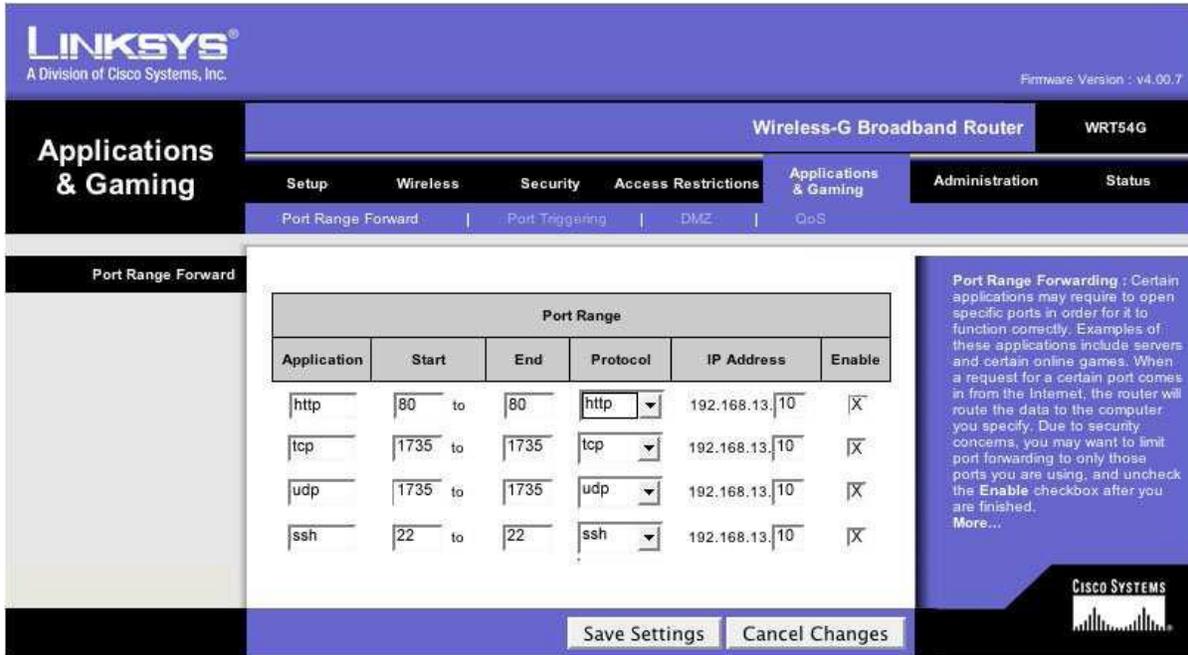


Figure 46: Router configuration "port forwarding"