AP-ELP (v3)

ELP Appliance

Installation manual and user guide

Version 8.8.19

stethos®

oberon service
beyond printing

AP-ELP (v3) Appliance Manual

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Table of contents

1 Introduction

The AP-ELP v3 Appliance is an external box, based on Jbox3 platform and equipped with the CPU Vortex86MX 32-Bit Microprocessor, DDR2 512MB onboard (933 MHz), which is based on x86 structure. It is the x86 SoC (System on Chip) with 0.13 micron process and ultra low power consumption design (less than 1 watt). The CPU is a high performance and fully static 32-bit X86 processor with the compatibility of Windows based systems, Linux and most popular 32-bit RTOS.
The CPU integrates 32KB write through direct map L1 cache, PCI Rev. 2.1 32-bit bus interface at 33 MHz, SDRAM, DDR2, ROM controller, IPC (Internal Peripheral Controllers with DMA and interrupt timer/counter included), Fast Ethernet MAC, FIFO UART, USB2.0 Host and IDE controller into a System-on-Chip (SoC) design.

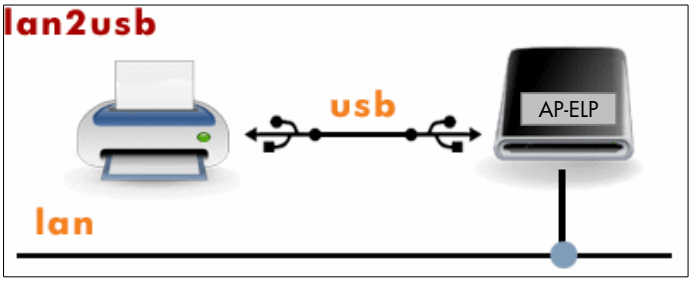
The box is running the standard kernel Linux 3.X Operating System installed on a single Secure Digital Card (SD). The SD capacity is starting from 2Gb. Bigger sizes can be used upon request.

The base system runs the following services:

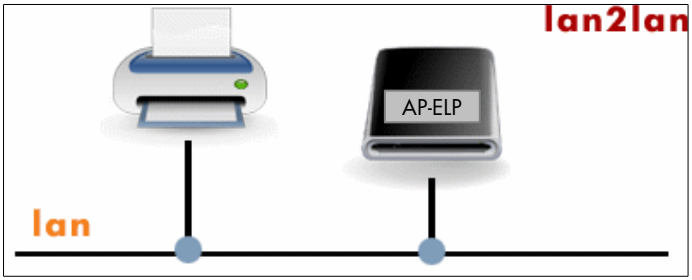
- Boa Web Server
- Telnet
- uDHCP
- Net-SNMP
- Pro-FTPD
- Jbox2 Daemon Prints

The standard configuration can serve maximum one printer connected to USB or via LAN (TCP/IP).

AP-ELP v3 as Print Server (LAN2USB):



AP-ELP v3 as re-router (LAN2LAN):



2 Network Configuration

The box's network interface (eth0) can be configured in two ways:

- Using a DHCP server
- Statically defined via Web Interface

At the box's power-on, the internal DHCP daemon looks for a DHCP server on the LAN, to acquire a valid IP address from it.
If no server is providing the IP address, the box automatically raise up the network interface with this **temporary** address:

IP ADDRESS	NETMASK ADDRESS
192.0.0.192	**255.0.0.0**

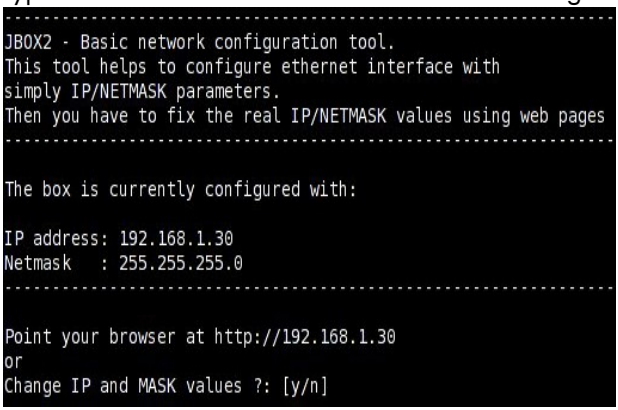
This address should be used to perform the complete box's configuration using the Web Interface (see. 3). otherwise it should be changed using the box's TTY console.

2.1 Using the box console

Before powering-on the box, connect a VGA monitor and a PS2/USB keyboard. Turn on the box.
When the box is ready, the console will display the login prompt like:

JBOX3-001BEB0012AA login:

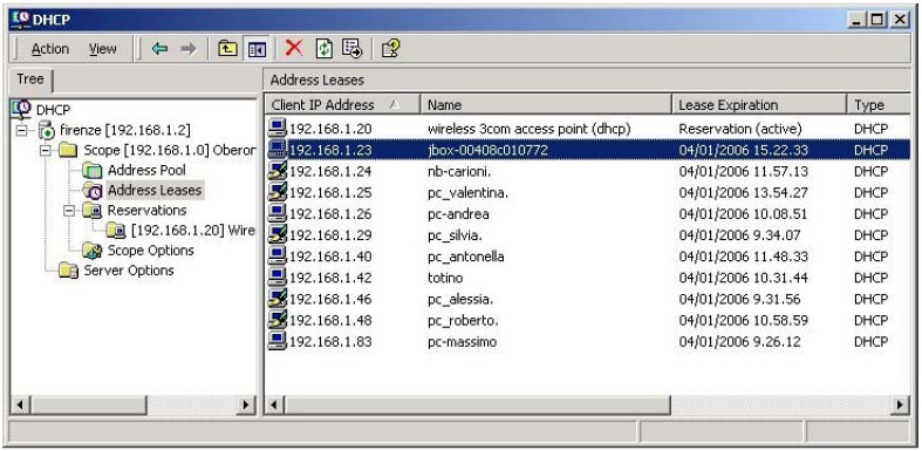
Type ALT+F2 to access the AP-ELP Network Configuration Tool window



After you changed the IP and MASK values with this tool, the configuration has to be performed using a browser (see. 3) pointing to the temporary IP associated.
Note: if the box is restarted, the network temporary configuration is lost.

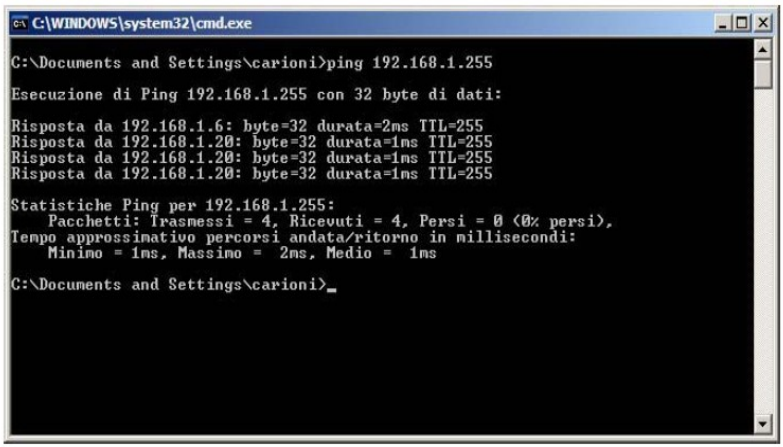
2.2 Using DHCP with MS Windows

When a DHCP server is available on LAN, the box asks for a valid IP address. To check which address the box gets from LAN, you have to login to DHCP server and look in the Address Leases window, on the right.



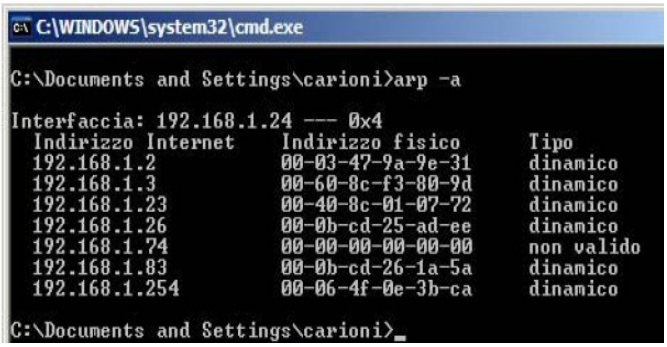
Look for the J-Box suffix followed by the box's MAC address.
In case you don't have the DHCP address, use the PING/ARP procedure to discover the box's IP.

1. Open a DOS shell on your Windows PC
2. Run the ping command in broadcasting mode in the current mask this way: ping 192.168.1.255 -t (the address must reflect your LAN)



3. Now examine the ARP table using the command arp –a

4. Find the AP-ELP v3 MAC address (reported on the box, bottom side) and the related IP address assigned by the Server.



2.3 Using DHCP with Linux

In case of Linux environment the commands to run are the following:

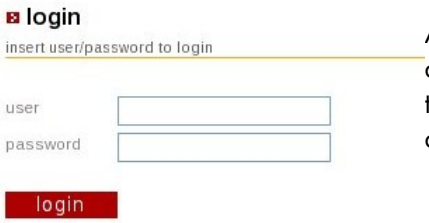
- Open a terminal session
- ping 255.255.255.255 –c 2 –b
- Now examine the ARP table using the command arp –a
- Find the AP-ELP Box MAC address (reported on the label on the bottom side of box) and the relative IP address assigned by DHCP Server.

3 Web Server

When the box is configured with an IP address (see chapter 2), the complete configuration has to be performed with the internal box's web server pages. The web server is secured with a login method using User and Password. Those values are configured the first time the web server is accessed. Recovering this account requires a "restore to factory default" procedure that should only be executed via the box's console (see. 3.8), so we suggest to use admin/admin as user and password in the web login page.

3.1 Login Page

The box's login page allows you to access configuration pages. At the first access, a User and Password should be chosen.



After you fill the user and password fields and press login, a pop-up will inform you to perform again the login with chosen account.

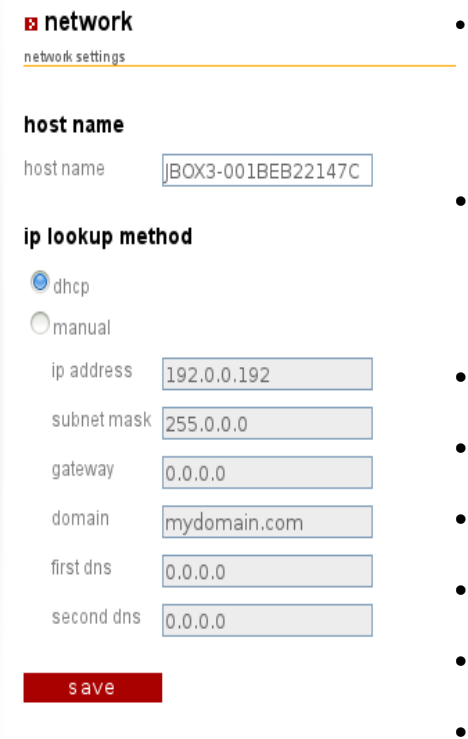
3.2 Home Page

A successful login will show the box's home page with a left-sided menu:

home	This page
network	Configure the networks configuration parameters (IP, MASK...)
printer	Configure the printer's jobs receive/send method (LAN2USB or LAN2LAN)
storage	Management of stored files on SD public area (Macros, Convert.ini ...)
firmware	Upload and perform appliance's firmware upgrade
log	Appliance logs
restore	Restore factory default
restart	Restart the appliance after configuration modifications
logout	Logout from web session

3.3 Network Page

The network page allows to configure the Ethernet interface (eth0).

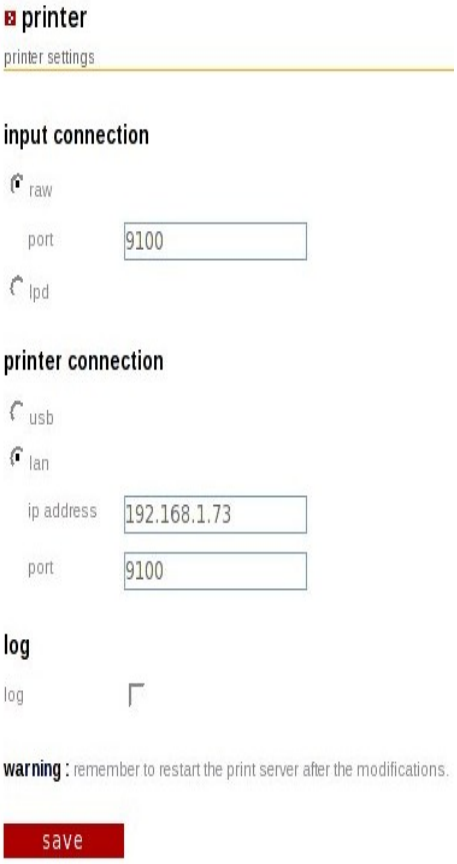


- **Host Name** – By default the box's hostname is composed by the JBOX3 keyword plus the Ethernet MAC address. This field allows you to change its default value.
- **IP lookup method** – By default the box looks for a DHCP server on LAN to acquire an IP address. If you need to assign a STATIC IP address choose for '*manual*' and fill up all 3 fields:
- **IP address**: ex 192.168.1.120
- **Netmask**: ex. 255.255.255.0
- **Gateway**: ex. 192.168.1.254
- **Domain** : search domain filter
- **First and Second DNS**: ex 0.0.0.0
- **SAVE button**: Save values

Remember: to use the new values a box's reboot is required.

3.4 Printer Page

The appliance's Printer Page allows you to configure the job's *Receive* method (the way the jobs are sent to AP-ELP) and the *Send* to printer method (the way the AP-ELP is sending modified jobs to device).



- **Input connection**: how the box will receive the jobs.
- **RAW**: default value is 9100
- **LPD**: normally used with unix/*nix systems. Fixed values is port 515 (LPR/LPD). No values are required then any queue name can specified on unix spool system.
- **Printer connection**: how the AP-ELP has to send the jobs.
- **USB**: a printer connected to the USB port (LAN2USB)
- **LAN**: rerouting the jobs to a LAN connected printer.
- **IP address**: specify the IP address of the destination printer.
- **PORT**: specify the connection port of remote printer.
- **LOG**: enable this flag to have the Printer thread log available for debug purpose. (See Log Page).

- **SAVE button**: Save values.

Remember: to use the new values a box's reboot is required.

3.5 Storage Page

The AP-ELP v3 appliance uses a Secure Digital to store programs and other various stuff. This page helps you to check what is loaded on the SD's public area or to load new files on it.

- **Browse**: This button helps to find files on your PC using a standard search window.
- **Store**: transfer the selected file on internal storage

By default some folders and files are preloaded on appliance.

- **RUNS**: this folder is normally used to configure the AP-ELP application. Inside this folder there are the elp.jxe and convert.ini files plus some .mac files.
- **DELETE**: use to delete files or folders from the storage.
- **CREATE DIR**: used only to create a new folder on storage.

3.6 Storage Download Manager

The AP-ELP v3 has a download manager that can be used to send to the appliance files and macros to be stored on internal storage.
This manager supports the PJL commands as a standard method to load stuff on storage area. By default the storage public area is mapped as disk 0:
It is easy to create a RFU (remote file upgrade) file that can be sent to the appliance as a normal job.
This RFU file has to begin with the special header that is 4 bytes

- #~#~

The supported PJL commands are:

- FSAPPEND
- FSDELETE
- FSDOWNLOAD
- FSMKDIR

RFU Example:
#~#~[esc]%-12345X@PJL
[esc]%-12345X@PJL
@PJL FSMKDIR NAME = "0:\macros"
@PJL FSDOWNLOAD FORMAT:BINARY NAME = "0:\macros\mymac.100"
SIZE=19432
..... (binary stream)

3.7 Firmware Page

This page is used to upgrade/downgrade the appliance's firmware.
Normally the new firmwares are published in zip format.
Before loading on the appliance, you have to unzip the firmware file on a PC's folder.

- Browse
Firmware file to load

- Button to perform the Firmware upgrade.

The box will automatically perform a reboot after the file is loaded.
To check the running firmware version, look on every bottom web pages for a line like

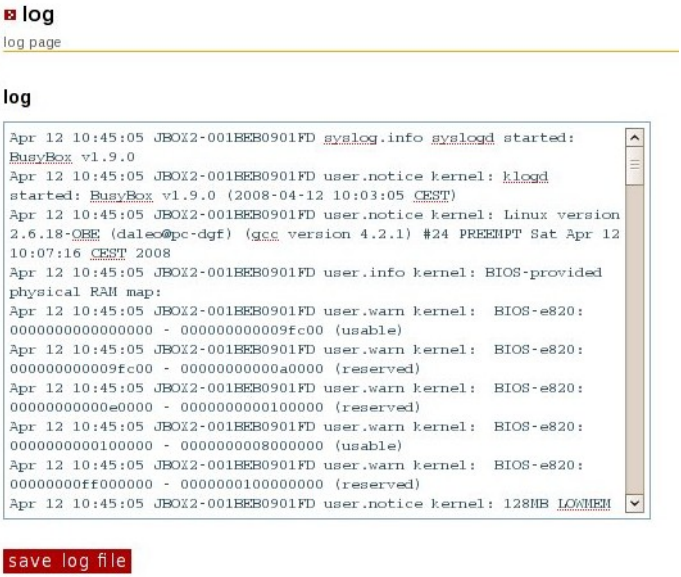
Firmware Version: 3-0.2-[X86] (20080326) | "

After the upgrade, check for changed version.

NOTE:
The firmware file is also available as RFU format. In this case just send it to the box as a normal job.

3.8 Log Page

The Log Page reports various log files available on appliance.
The main window is showing the Linux OS log messages.
This log is produced by the kernel and drivers.

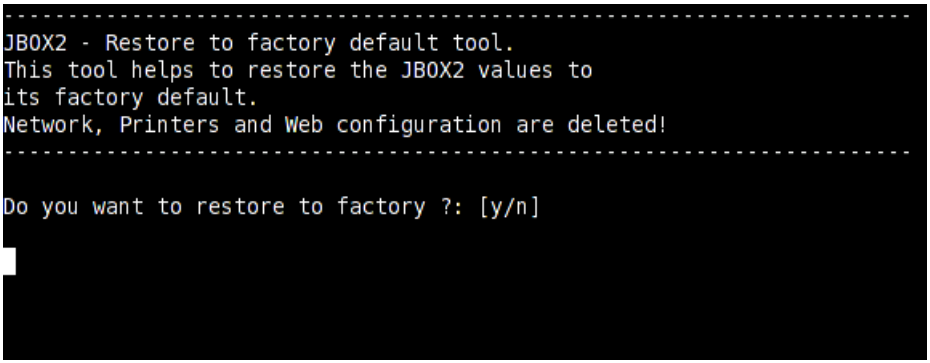


The “save log file” button is used to open a new browser window.
This new window (text format) is reporting deep information about the appliance itself.

3.9 Restore Page

Use this page to restore the appliance to its factory default value

Apply the restore button to clear the configuration.
It is possible also to use the J-Box2 / APELP v2 console to perform the Restore to Factory procedure. Follow the same steps on 2.1 but instead of typing ALT+F2, type ALT+F3 sequence. A window like this will appear:



Just type Y at the prompt and the box will reload factory default values and it will reboot automatically.

3.10 Restart Page

This link has to be used to perform a remote reboot of appliance.
It is required after any modification on the box's configuration.

Just click on restart button to perform the remote appliance reboot.

4 FTP Server

JThe AP-ELP v3 is running also an FTP server to server the access to the public storage area on SD card.
The login to requires the following credentials:

USER: storage
PASS: storage

5 Hardware support

For any hardware support request please us the following contact information:

Oberon Service srl
Via Meda 28
I-20141 Milan
Italy
Phone: +39 02 84800612
Fax: +30 02 84800538
e-mail: support@oberon.it
info@oberon.it

6 ELP installation

There is nothing to do here. AP-ELP comes fully preconfigured with the ELP code pre-installed on the box.

7 ELP configuration

7.1 PCL Barcoding:

No configuration is needed. By default ELP fully emulates the industry standard for Laser printer barcode printing, but with some nice extensions, which are listed in the manual.

7.2 PostScript Barcoding

This is an extension to the standard printing, and can be configured using the Windows Configuration Tool (W-ELP – Control Center / PPAdmin).

7.3 All other functionalities

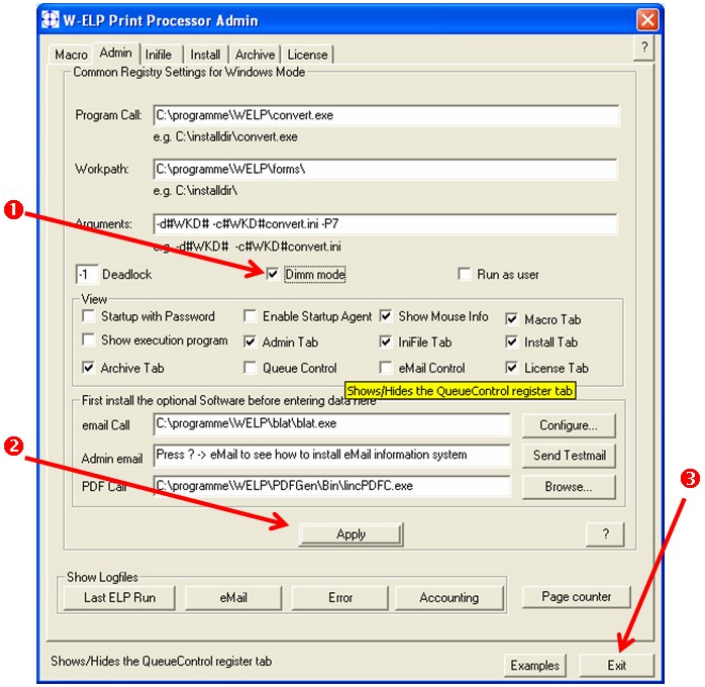
Need to be configured in 3 steps:

- Use the Windows PPAdmin tool to setup the required rules.
- Test the rules
- Download the configuration files to the AP-ELP or put the proper ELP command into the data stream.

8 Installation and configuration of the Windows W-WELP software

Download the configuration software from www.stethos.com/e_welp.htm (English) or www.stethos.com/d_welp.htm (German)

Install it, and run the PPAdmin Control Centre. In the first step, you need to set the software into the AP-ELP Emulation mode, as the pure Windows part does support more functionality. This is to prevent you to define rules, which may not apply in the AP-ELP version.



1. Mark the DIMM version option
2. Apply the new setting
3. Exit the PPAdmin software
4. Restart the software to activate the changes.
   Now the DIMM / AP-ELP Emulation mode is active.

For first steps please click on the top right question mark and implement your rules.

9 Download the rules and forms to AP-ELP

Once the settings are made and everything is working you need to download the configuration to the AP-ELP Box.
Normally there are 2 types of files downloaded form the WELP\forms directory:

convert.ini	Your rules configuration file.
Other linked ini files:	In rare cases, additional ruled ini-files may be needed, using the ini-file key iniFile=…. In the convert.ini file: Before downloading the convert.ini in this case, you need to change the iniFile= statements from the Windows based path to the AP-ELP Box based path: c:\programme\welp\forms\xxxx.ini to /mnt/usbdisk/runs/xxxx.ini
Forms files *.mac.	Please download only the mac files you have created.

IMPORTANT: ALL FILENAMES ON THE AP-ELP BOX NEED TO BE STORED IN lower case!

In order to download the files please open your Browser and type in the TCP/IP address of your box and browse to the runs folder:

Select each file you want to transfer normally out of the c:\programme\welp\forms and transfer it to the AP-ELP box.
The next job arriving will be treated according the defined rules.

10 Declarations of conformity

We,
stethos GmbH
Weimarer Str. 48
71065 Sindelfingen
Germany
Phone: +49 7031 860910
Fax: +49 7031 871444
e-mail: support@stethos.com
info@stethos.com

declare under our sole responsibility that the product

AP-ELP, ELP Appliance and AP-ELP v3

to which this declaration relates, are in conformity with the following standards and/or other normative documents.

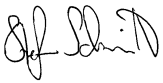
CE

PN – EN 55022 (10-2000)
PN – EN 55024 (09-2000)
FCC Part 15 Section 209

FC

We hereby declare that the above named product is in conformity with the essential requirements and other relevant provisions of Telecommunication directive (Dz. U.2000, nr 73 pos. 852). The technical documentation relevant to the above equipment will be held at

stethos GmbH
Weimarer Str. 48
71065 Sindelfingen
Germany

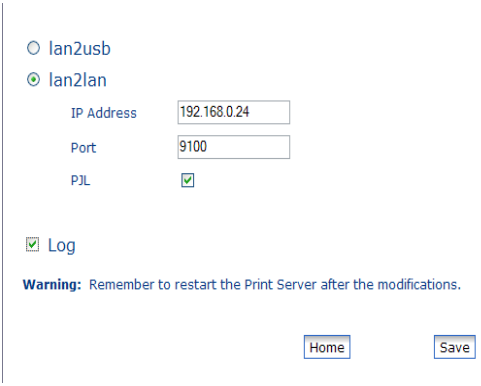


Stefan Schmidt (Name) — (Signature)
Marketing Manager (Title) — March 6th, 2006 (Date)

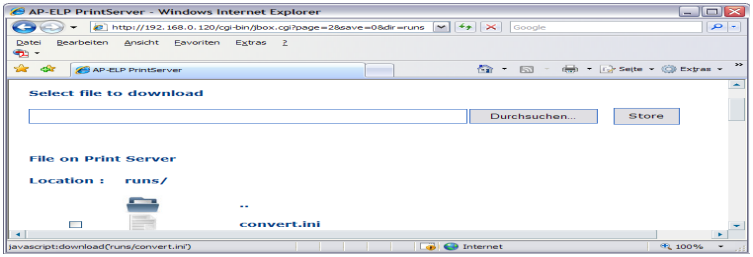
11 Support

If you encounter any problems with the box, please follow the steps described below:

- Make sure that the log of the box is activated (in the printer settings):



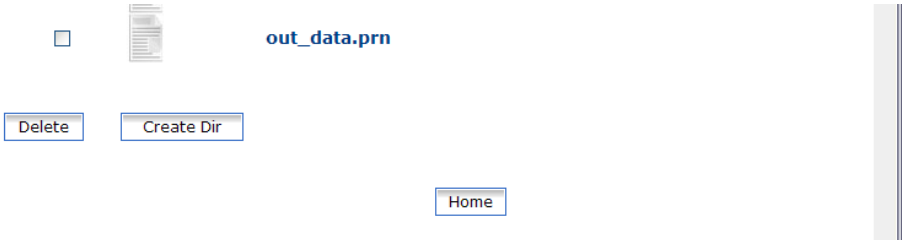
- Restart the print server.
- Download the current convert.ini to your local machine:
  - Go to storage management
  - Click on "runs"
  - Click on the file an select "download"



- Add the following commands to your downloaded convert.ini:
  Log_Mode=101
  Debug_OutData=ON
  Debug_InData=ON

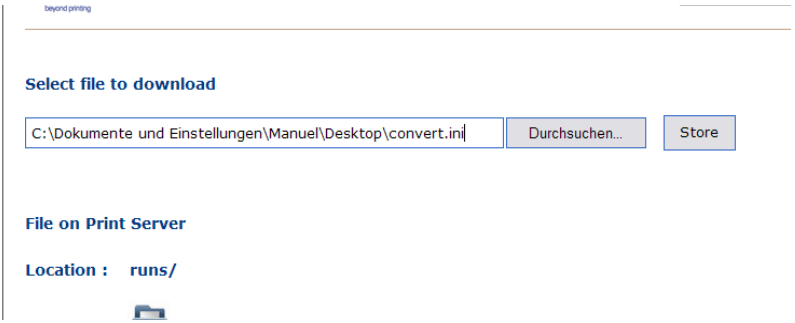
- Mark the old ini-file:

- And then press the delete-button at the bottom of the page:



- Upload the convert.ini to your runs-folder (storage management) and store it like this:
  Go to Storage Management / runs.
  Select the file to download (to the box) by pressing the search-button (in German: "Durchsuchen").

Now choose the new convert.ini within the file dialog of your operating system and click on open.



And then hit the store button.

- Process a print job.

- Download (to your local machine) and send us the following files: convert.ini, in_data.prn, out_data.prn, log_file.txt, your print job and all your used macro files from storage management/runs

For any support request please use the following contact information

Please open the PPAdmin software -> License Tab -> about to find your local distributor or contact:

stethos GmbH
Weimarer Str. 48
71065 Sindelfingen
Germany
Phone: + 49 7031 860910
Fax: + 49 7031 871444
e-mail: support@stethos.com
info@stethos.com

12 Product numbers and options

AP-ELP can be ordered through your local distributor. If you need help to find a reseller just let stethos know.

Product No	Description
ELPAP001	AP-ELP appliance for 1 printer (either networked or USB)
ELPAP002	USB Cable from AP-ELP Box (Type-A) to printer (Type-B)
ELPAP003	Cable from AP-ELP Box (USB Type-A) to printer (Centronics)
ELPAP004	Gender changer from Centronics (female) to mini Centronics
ELPAP011	1 year maintenance*
ELPAP012	2 years maintenance*
ELPAP013	3 years maintenance *
ELPAP014	4 years maintenance *
ELPAP015	5 years maintenance *

*Check your supplier for terms and conditions of the maintenance option