Ethernet
Micro Web Server

Version: *MWS V2.00*

Get the world connected

The Netherlands

DOC1262003ENG

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Description

This microwebserver will give you sleepless nights!!!!!!!!
This new technique will take control of you.

With the MWS V2.00 it is easy to control eveything by ethernet among other things: outside and inside lights, heating, alarminstallation, webcam etcetera, etcetera .

And all this will work with your standard Webbrowser.

Do you have a ADSL-Internetconnection and a Router?
Yes...then the Microwebserver can be visible on the Internet.

This is also possible via an Internetcaffee anywhere in the world!!!

The server is connected with the ethernet, which means, you need at least a computer with installed networkcard and TCP/IP protocol.
A random number of microservers can be connected with the network.
The servers are incited with a standard Webbrowser MSIE or Netscape
(for example: http://192.168.255.100)
The development Tool (compiler, downloadtool etcetera) runs on Win 95, Win 98/2000 or WinXP. The Firmware for the Atmel is produced by the compiler and can be flashed via the programmingcable (PC printerport) in the Atmel flash memory.
HTML and IMAGES are easilly loaded via the network in the server-EEPROM.
On the cd-rom you will find the directions for use in PDF format and lots of example programs.
The server will be delivered with a downloaded program. With this program you are able to link 4 TTL-exits.
The IP adress can always be changed with the programtool or via the ethernet.

The Kit exists of a server, a programmingcable and software (cd-rom).

You will be surprised how easy it is in switching and controlling Via the Ethernet.

Short instruction:

Loading Firmware and Homepage

(program on CDROM [pwdev/samples/test])

1. Install PVDEV Software (unzip on Harddisc)
2. Change the PATH settings in the autoexec.bat file
3. Boot the PC
4. Compile the project with xbuild.bat ([pwdev/samples/test])
5. Connect Webserver to the 12VDC supply and with the Ethernet
6. Connect the programmingcable (PC und SPI)
7. Download the Firmware with xavrld.bat
8. ISP cable can be disconnected
9. Download the Homepage with xnetld.bat
10. Make a connection using your Webbrowser (HTTP://192.168.168.123)

Note1:

xbuild, xavrld and xnetld are Batchfiles.
These Batchfiles will only work if the PATH setting is correct.
The IP Address in this example is 192.168.168.123
Please check the Subnetmask setting at your Ethernet PC (255.255.255.0)
The max. size of the Homepagefile can be 32 KB.

All the docs you need can be found on the CDROM [docs]
pwproj.pdf, install.txt, readme.txt

Note 2:

The Mwebserver is already loaded with a programm (samples/test/webled.pwp).
IP = 192.168.168.123
MAC = 0.1.2.3.4.5

Startup instructions of the Micro Web Server

- Plug the microwebserver`s 10BaseT cable into the same network as the Windows PC. (The PC must have an Ethernet adapter with TCP/IP installed)
- Find the ID address of the PC. (You can use the Windows GUI programm *WINIPCFG* or issue a ROUTE PRINT command in an MS-DOS Prompt window. Make sure you have found the IP address assigned to the Ethernet adapter, not of the DIAL-UP adapter!
- Enter the following command in an MS-DOS Prompt window:

  ROUTE ADD 192.168.168.123 x.y.z.w
  Where (x.y.z.w) is the IP-Address of the WindowsPCs

- Ping des Microwebservers with the following command:

  PING 192.168.168.123

If your WindowsPC residents in the same Netzworkmask then you do not need the ROUTE ADD-command.

z.B.	IP WinPC	192.168.168.x	Netzworkmask	255.255.255.0
	or	192.168.x.x		255.255.0.0

Remote IP Address Configuration

You can change the IP address of the webserver over the Ethernet using the Windows programm *SETIP.EXE* . To use *SETIP.EXE* make sure the webserver is on the same LAN as the host you will be using to run *SETIP.EXE* and issue a command like the following in an MS-DOS Prompt window:

SETIP 0:1:2:3:4:5 192.168.168.100

RS232 Interface

The RS232 is preconfigured with the following parameters:

- 19200 Bd
- 8 Databits
- 1 Stopbit

After powering up the microwebserver the MAC address will show up via the serial interface.

The MWS Homepage

Edit the MWS address http.//192.168.168.123 on the Webbrowsers addressfield.
The server will respond with the loaded homepage.

digital I/Os

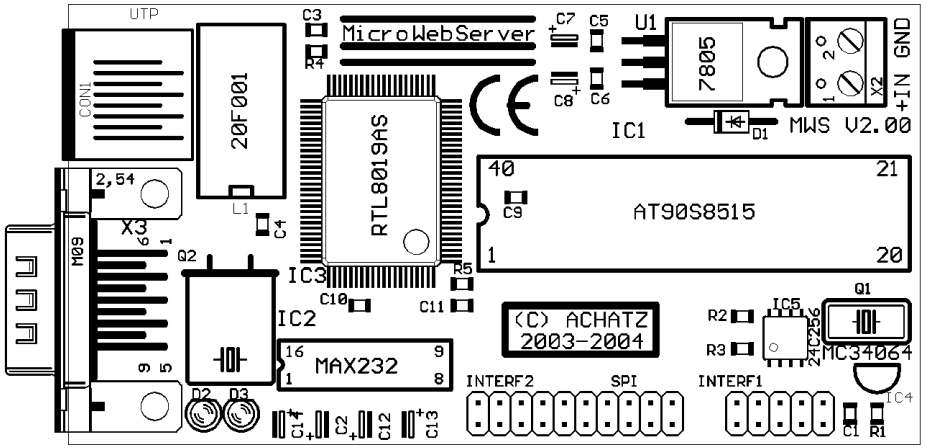
For changing the outputs select "on" or "off" and push the channelbutton

Following outputs can be switched with the loaded Programm:

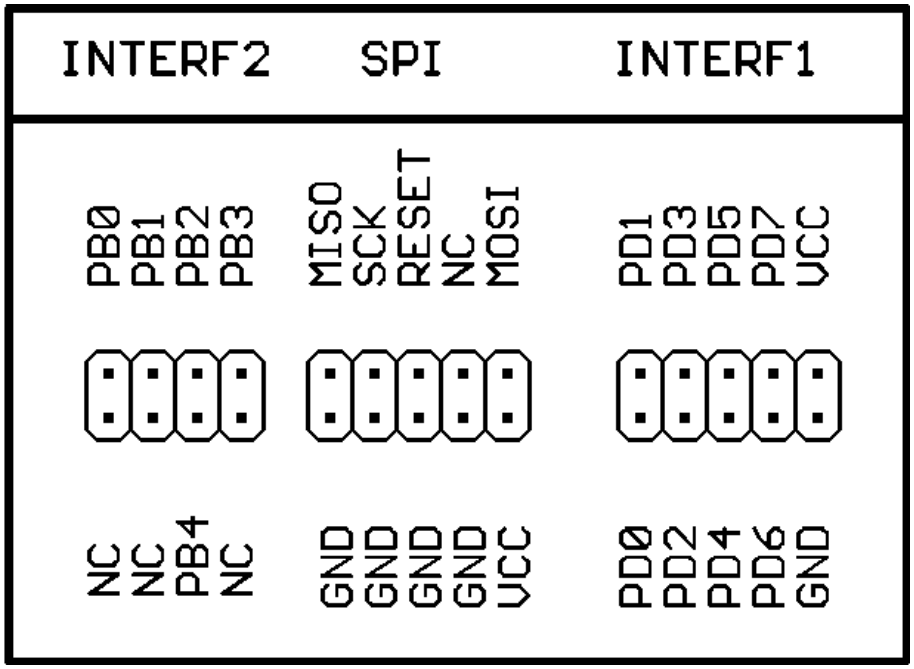
- PD 3 Channel 1
- PD 4 Channel 2
- PD 5 Channel 3
- PD 6 Channel 4

Signal [ON] = 0 VDC
Signal [OFF] = 5 VDC

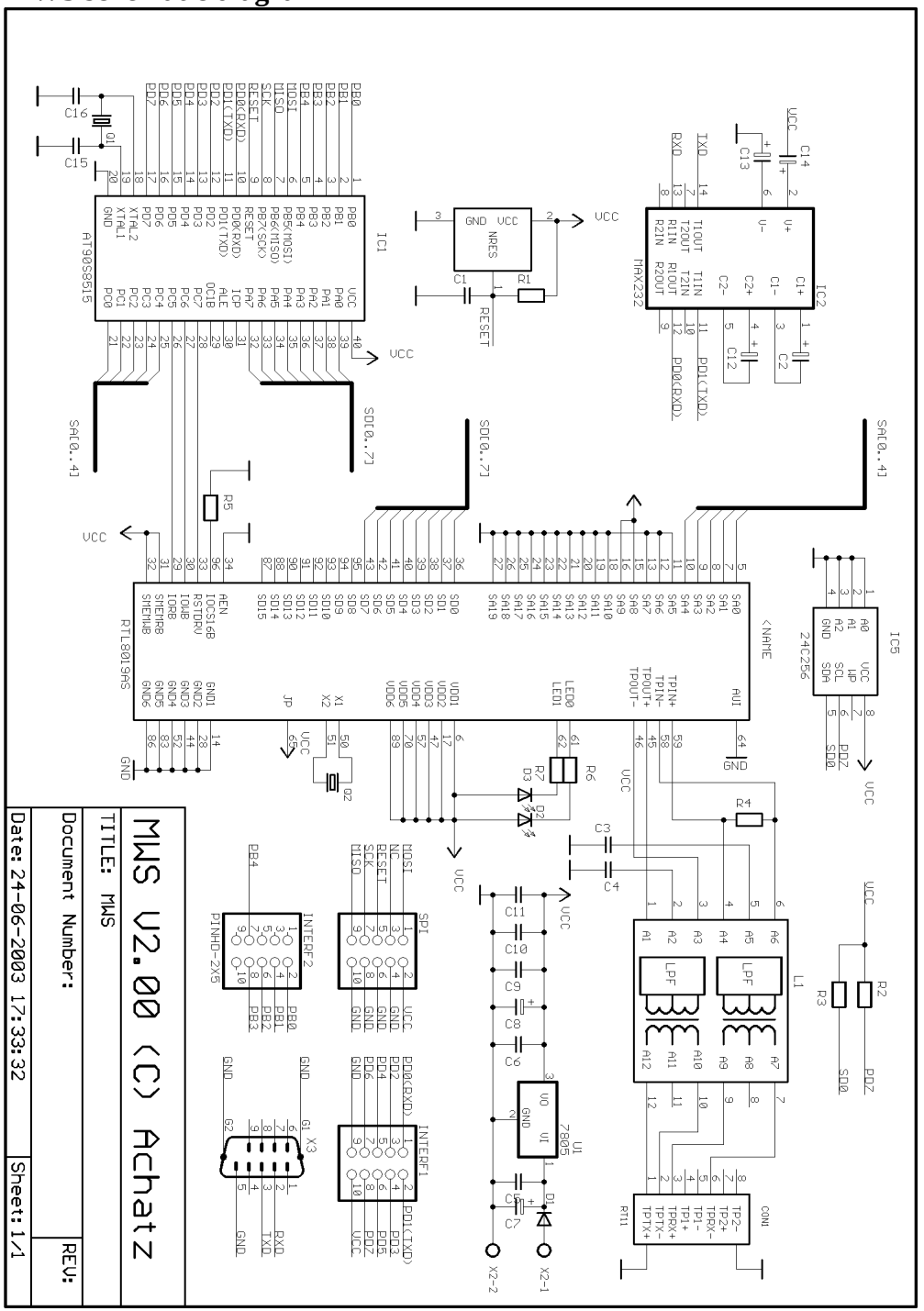
MWS V2.00 PCB



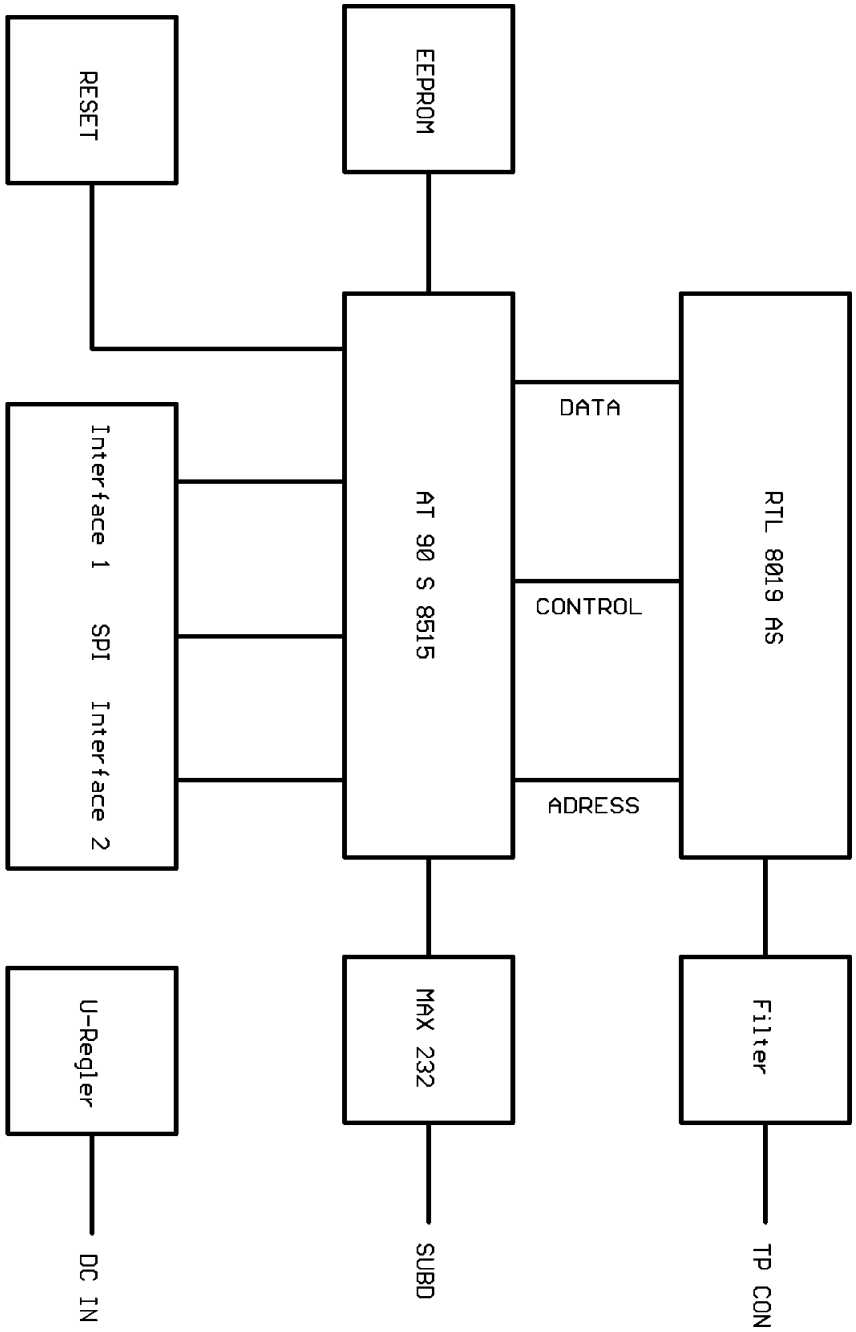
allocation of the I/Os



MWS schematic diagramm



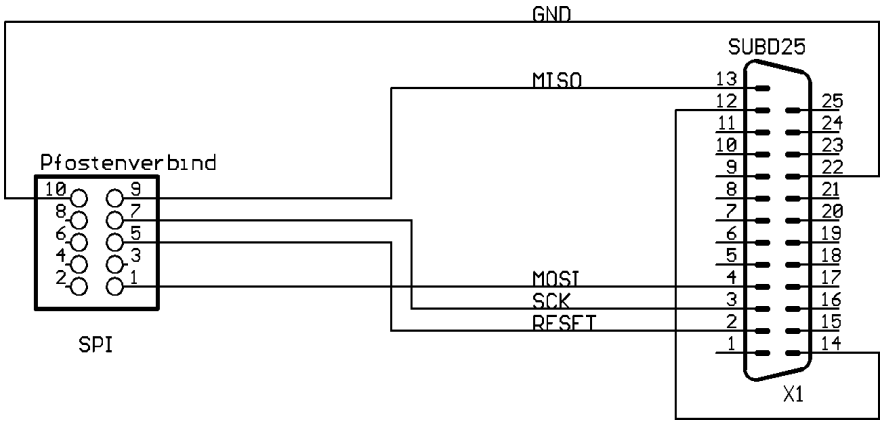
Blockdiagramm



Partslist

Name	Bezeichnung	Bauform
C1	100nf	smd
C2	10µf	mini
C3	100nf	smd
C4	100nf	smd
C5	100nf	smd
C6	100nf	smd
C7	10µf	mini
C8	10µf	mini
C9	100nf	smd
C10	100nf	smd
C11	100nf	smd
C12	10µf	mini
C13	10µf	mini
C14	10µf	mini
C15	22pf	smd
C16	22pf	smd
CON1	RJ45 TP-Connector	liegend
D1	1N4004	RM10
D2	LED rot	3mm
D3	LED grün	3mm
Fassung IC1	Präzisionsfassung	DIL 40
Fassung IC2	Präzisionsfassung	DIL 16
IC1	AT90S8515	DIL 40
IC2	MAX232	DIL 16
IC3	RTL8019AS	TQFP100
IC4	MC34064P5	TO92
IC5	24C256	smd
INTERF1	Pfostenstecker 2x5	stehend
INTERF2	Pfostenstecker 2x4	stehend
L1	Filter 20F001N	DIL
MWS-PCB	MWS V2.00 Leiterplatte	100x52mm
Q1	8 MHZ QUARTZ	mini
Q2	20 MHZ QUARTZ	liegend
R1	10K	smd
R2	2K2	smd
R3	2K2	smd
R4	200R	smd
R5	10K	smd
R6	470R	smd
R7	470R	smd
SPI	Pfostenstecker 2x5	stehend
U1	7805 Spannungsregler	TO220
X2	Printschraubklemme 2 pol.	RM5
X3	SUBD Stiftleite 9 pol. gew.	Print

Programmingcable



MWS and the programmingcable

connect the programmingcable on the SPI Interface

Micro Web Server

MWS V2.00

FAQ

1) **No MWS response via the Ethernet**

Use a Crossover-cable if you connect the microwebserver direct to the Win PCs Ethernetadapter or a normal Twisted-Paircable for using the server via an Hub or Router.
Disable "PROXYSERVER" at the Webbrowsersettings
Check the Networking parameters on the WinPC.
Is TCP/IP installed?
Is the Netzworkmask correct?
Try a ping command "ping 192.168.168.123"
The Microwebserver will be delivered with the IP 192.168.168.123.
If your Win PC IP is 192.168.100.100 and the mask is 255.255.255.0 then reconfigure the mask to 255.255.0.0
or
change the IP address with the following command
"setip 0:1:2:3:4:5 192.168.100.101".

2) **Download Fails with Parallel Port on PC**

(Chip can no be enabled...)
Verify that the parallel port is enabled, that it is properly configured, and that it is not being used by another programm. On some PC`s, the parallel port must be taken out of bi-directional mode (called ECP/EPP mode) before it can be used to programm the microwebserver.

3) **The Development-System does not run**

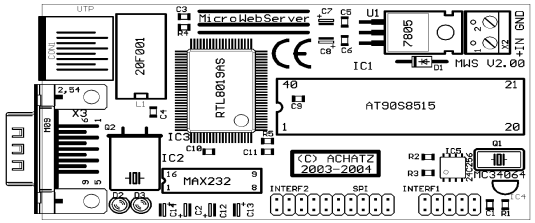
(file not found)
None of the development batch files will work unless the evironment variables are set properly.
Please read the file "install.txt".

4) **Slow response of the Microwebservers Homepage**

Use an different TP-cable.
You have created a Ground Loop.

Technical data:

- Atmel AT90S8515 Microcontroller
- Onboard voltageregulator (7,5 ... 18 VDC)
- Status LED`s
- Reset Controller
- serial EEPROM for holding the Homepage
- Onboard RTL8019AS Ethernetchip
- TP Ethernetinterface
- RS232 interface
- Programming interface for Atmel Controller
- 16 digitale in- or outputs
- all I/Os available via connectors
- I2C Interface for Temp-chip
- Powerconsumption. 40mA
- Dimensions 100 x 52mm



Protocols:

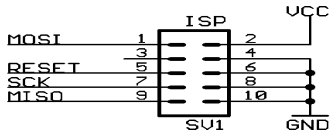
- TCP/IP
- BOOTP
- SMTP
- HTTP
- PING
- UDP

MWS 2.00 Kit

- MicroWebServer
- Programmingcabel
- Software

SPI Interface:

The SPI-Interface consists of a 2x5 connector.
The Layout is compatible with the Atmel
STK 200/300 programmingdongle
Supported signals:
1- MOSI, 2- VCC, 3- NC, 4- GND, 5- RST, 6- GND,
7- SCK, 8- GND, 9- MISO, 10- GND



Digital inputs - outputs:

PB 0 … 7
PD 0 … 6

RS 232 Interface:

MAX 232 Interface Chip

I2C Interface:

for. DS1621 Temp Chip

RESET Controller:

MC 34064 P5 - 4,6V

Supported Microcontroller:

AT90S8515-8

Powersupply:

Please use a supply voltage between
7,5 VDC and 18 VDC

Ordering-Code:

MWS V2.00