Supplementary Instruction Manual WLAN
ALMEMO® 500
Connection to a WiFi network as relay bridge

V7-Technology

English
V2.4
24.01.2018
1 Table of Contents

1 Table of Contents .............................................................................................................. 2
2 Explanation of Symbols ...................................................................................................... 3
3 How to reset the access point to its factory setting .............................................................. 4
4 How to configure the access point ....................................................................................... 5
   4.1 Open the configuration page .......................................................................................... 5
   4.2 Check the OPKG setting ............................................................................................... 5
   4.3 Set the distribution feeds ............................................................................................ 6
   4.4 Install required supplementary programs .................................................................... 7
   4.5 Choose WiFi network and connect ............................................................................... 8
   4.6 Generate an Interface BRIDGE .................................................................................. 9
   4.7 Set the WWAN firewall ............................................................................................... 11
   4.8 Restart the data logger .................................................................................................. 12
   4.9 Deactivate the DHCP server ...................................................................................... 12
5 Information regarding the subsequent login to the app .................................................. 14
2 Explanation of Symbols

Notice

Result

3 Reference referring to the global overview of the data logger (page 2)

Back

Text displayed within a software
3 How to reset the access point to its factory setting

! No Ethernet cable shall be connected to the data logger.
1. Switch the data logger on and wait until the device is ready for operation.

See Instruction Manual ALMEMO® 500.

2. Press a navigation key until the menu “1) Network Conf.” is displayed on the status display.
3. Press and hold the right one of the navigation keys.
   ➢ The menu “WLAN Module” will open.
4. Press the left one of the navigation keys to confirm with “YES”.
   ➢ The access point will be reset.

The reset process may take several minutes

➢ The status display of the data logger will show the message “Press any key”.
5. Switch the data logger off and then on again in order to reboot it.
4 How to configure the access point

4.1 Open the configuration page

1. The data logger must be connected to the PC via Ethernet.
2. Open an Internet browser.
3. Enter the IP address of the access point of the ALMEMO® 500 (set by the factory to 192.168.1.1) into the address line of the Internet browser.
4. Tap on ENTER.
5. The Login screen of the access point will open.
6. Enter the user name (set by the factory to root) in the field next to Username.
7. Enter the password (set by the factory to Ahlborn2016) in the field next to Password.
8. Click on the Login button.
9. The configuration page of the access point will open.

4.2 Check the OPKG setting

1. Click on System.
2. Click on Software.
3. Click on the tab Configuration.
4. Check whether the paths in section OPKG-Configuration contain the following paths:
4 How to configure the access point

OPKG-Configuration
General options for opkg

<table>
<thead>
<tr>
<th>Actions</th>
<th>Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>dest root /</td>
<td></td>
</tr>
<tr>
<td>dest ram /tmp</td>
<td></td>
</tr>
<tr>
<td>lists_dir ext /var/opkg-lists</td>
<td></td>
</tr>
<tr>
<td>option overlay_root /overlay</td>
<td></td>
</tr>
<tr>
<td>src/gz.barrier_breaker_base <a href="http://dhcom.lan/web/packages/base">http://dhcom.lan/web/packages/base</a></td>
<td></td>
</tr>
<tr>
<td>src/gz.barrier_breaker_luci <a href="http://dhcom.lan/web/packages/luci">http://dhcom.lan/web/packages/luci</a></td>
<td></td>
</tr>
<tr>
<td>src/gz.chaos_calmer_base <a href="http://dhcom.lan/web/packages/base">http://dhcom.lan/web/packages/base</a></td>
<td></td>
</tr>
<tr>
<td>src/gz.chaos_calmer_luci <a href="http://dhcom.lan/web/packages/luci">http://dhcom.lan/web/packages/luci</a></td>
<td></td>
</tr>
</tbody>
</table>

6. Correct the paths if necessary.
7. Click on Submit.

4.3 Set the distribution feeds

1. Click on System.
2. Click on Software.
3. Click on the tab Configuration.
4. Scroll down to the section Distribution feeds.

- The following distribution feeds will be listed:

Distribution feeds
Build/distribution specific feed definitions. This file will NOT be preserved in any sysupgrade.

- src/gz.chaos_calmer_base http://downloads.openwrt.org/chaos_calmer/15.05.1/ar71xx/generic/packages/base
- src/gz.chaos_calmer_luci http://downloads.openwrt.org/chaos_calmer/15.05.1/ar71xx/generic/packages/luci
- src/gz.chaos_calmer_packages http://downloads.openwrt.org/chaos_calmer/15.05.1/ar71xx/generic/packages/packages
- src/gz.chaos_calmer_routing http://downloads.openwrt.org/chaos_calmer/15.05.1/ar71xx/generic/packages/routing
- src/gz.chaos_calmer_telephony http://downloads.openwrt.org/chaos_calmer/15.05.1/ar71xx/generic/packages/telephony
- src/gz.chaos_calmer_management http://downloads.openwrt.org/chaos_calmer/15.05.1/ar71xx/generic/packages/management

5. Delete the first two rows.
- The following distribution feeds shall be displayed:
4 How to configure the access point

Distribution feeds
Build/distribution specific feed definitions. This file will NOT be preserved in any sysupgrade.

```
src/gz/chaos_calmer_packages http://downloads.openwrt.org/chaos_calmer/15.05.1/ar71xx/generic/packages/packages
# src/gz/chaos_calmer_routing http://downloads.openwrt.org/chaos_calmer/15.05.1/ar71xx/generic/packages/routing
# src/gz/chaos_calmer_telephony http://downloads.openwrt.org/chaos_calmer/15.05.1/ar71xx/generic/packages/telephony
# src/gz/chaos_calmer_management http://downloads.openwrt.org/chaos_calmer/15.05.1/ar71xx/generic/packages/management
```

6. Click on Submit.

4.4 Install required supplementary programs

1. Click on System.
2. Click on Software.
3. Click on the tab Actions.
4. Click on Update lists.
5. In the field Download and install packages, enter the text relayd.
6. Click on OK.

➢ The supplementary program “relayd” has already been installed if the following message appears:

```
Package relayd (2015-03-13-2970ef060b70e692775d5c759dc0b9) installed in root is up to date.
```

➢ The supplementary program “relayd” is being installed if the following message appears:

```
Installing relayd (2015-03-13-2970ef060b70e692775d5c759dc0b9) to root...
Downloading http://dhcom.lan/web/packages/base/relayd_2015-03-13-2970ef060b70e692775d5c759dc0b9_ar71xx.ipk.
Configuring relayd.
```

7. In the field Download and install package, enter the text luci-proto-relay.
8. Click on OK.
4 How to configure the access point

- The supplementary program “luci-proto-relay” has already been installed if the following message appears:

```
Package luci-proto-relay (git-15.248.30277-383&b45-1) installed in root is up to date.
```

- The supplementary program “luci-proto-relay” is being installed if the following message appears:

```
Installing luci-proto-relay (git-15.248.30277-383&b45-1) to root...
Configuring luci-proto-relay.
```

4.5 Choose WiFi network and connect

1. Click on **Network**.
2. Click on **Wifi**.
3. Click on **Scan**.
   - All available WiFi networks will be displayed.
4. Next to the desired WiFi network, click on **Join Network**.
5. Enter the password of the WiFi network in the field next to **WPA passphrase**.
7. In the section **Create / Assign firewall-zone**, click on **LAN**.
8. Click on **Submit**.
9. Click on **Network**.
10. Click on **Interfaces**.
4 How to configure the access point

- In the section Interface Overview, the LAN und WWAN will be displayed in green.

**Interfaces**

**Interface Overview**

<table>
<thead>
<tr>
<th>Network</th>
<th>Status</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAN</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WWAN</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WAN</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WAN</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Click on **Save & Apply**.

4.6 Generate an Interface BRIDGE

1. Click on **Network**.
2. Click on **Interfaces**.
3. Click on **Add new interface...**.
4. In the field next to **Name of the new interface**, enter the text **BRIDGE**.
5. In the field next to **Protocol of the new interface**, choose **Relay bridge**.
6. Click on **Submit**.
7. In the tab **General Setup** next to **Relay between networks** tick the boxes next to LAN and WWAN.
8. Click on **Save & Apply**.
4 How to configure the access point

- The changes will be saved and the Interface BRIDGE will be displayed in green in the Interface Overview.

**Interfaces**

**Interface Overview**

<table>
<thead>
<tr>
<th>Network</th>
<th>Status</th>
<th>Actions</th>
</tr>
</thead>
</table>
| BRIDGE  | Uptime: 0h 23m 23s  
Rx: 1.25 MB (6359 Pkt/s)  
Tx: 3.66 MB (9538 Pkt/s) | Connect  
Stop  
Edit  
Delete |
| LAN     | Uptime: 0h 23m 23s  
MAC Address: 60:1F:7D:F0:7F:E2  
Rx: 1.19 MB (8142 Pkt/s)  
Tx: 3.61 MB (8132 Pkt/s)  
IPv4: 192.168.1.1/24  
Stop  
Edit  
Delete |
| WWAN    | Uptime: 0h 2m 45s  
MAC Address: 60:1F:7D:F0:7F:E2  
Rx: 55.27 KB (217 Pkt/s)  
Tx: 46.80 KB (405 Pkt/s)  
IPv4: 192.168.7.56/24 | Connect  
Stop  
Edit  
Delete |
| WAN     | Uptime: 0h 0m 0s  
MAC Address: 60:1F:7D:F0:7F:E2  
Rx: 0.00 B (0 Pkt/s)  
Tx: 159.43 KB (471 Pkt/s) | Connect  
Stop  
Edit  
Delete |
| WWAN    | MAC Address: 60:00:00:00:00:00:00  
Rx: 0.00 B (0 Pkt/s)  
Tx: 0.00 B (0 Pkt/s) | Connect  
Stop  
Edit  
Delete |
4. How to configure the access point

- The changes will be saved and the Interface Bridge will be displayed in the Interface Overview.

**Interfaces**

Interface Overview

<table>
<thead>
<tr>
<th>Network</th>
<th>Status</th>
<th>Actions</th>
</tr>
</thead>
</table>
| BRIDGE | Uptime: 0h 35m 39s<br>Relay "BRIDGE"
RX: 1.73 MB (8041 Pkts.)
TX: 1.68 MB (7047 Pkts.) | Connect | Stop | Edit | Delete |
| LAN | Uptime: 0h 35m 39s<br>MAC-Address:
00:1F:7D:F0:7F:FD
RX: 1.37 MB (6790 Pkts.)
TX: 1.75 MB (5617 Pkts.)
IPv4: 192.168.1.1/24
IPv6: fd00:a516:7c1b:1:4:800:2e96:4efc | Connect | Stop | Edit | Delete |
| WWAN | Uptime: 0h 22m 41s<br>MAC-Address:
00:1F:7D:80:7F:FD
RX: 362.73 KB (1251 Pkts.)
TX: 153.03 KB (1430 Pkts.)
IPv4: 162.188.7.68/24 | Connect | Stop | Edit | Delete |
| WAN | Uptime: 0h 0m 0s<br>MAC-Address:
00:1F:7D:F0:7F:FD
RX: 0.00 B (0 Pkts.)
TX: 243.22 KB (716 Pkts.) | Connect | Stop | Edit | Delete |
| WANS | MAC-Address:
00:00:00:00:00:00
RX: 0.00 B (0 Pkts.)
TX: 0.00 B (0 Pkts.) | Connect | Stop | Edit | Delete |

9. In the line BRIDGE, click on **Edit**.
10. Click on the tab Firewall Settings.
11. In the section Create / Assign firewall-zone, click on LAN.
12. Click on **Save & Apply**.

4.7 Set the WWAN firewall

1. Click on **Network**.
2. Click on **Interfaces**.
3. In the line WWAN, click on **Edit**.
4 How to configure the access point

4. Click on the tab Firewall Settings.
5. In the section Create / Assign firewall-zone, click on LAN.
6. Click on Save & Apply.

4.8 Restart the data logger
1. Switch the data logger off.
2. Switch the data logger on and wait until the device is ready for operation.

See Instruction Manual ALMEMO® 500.

➢ In the menu “1) Network Conf.”, the status display lists an IP address that has been assigned by the DHCP server of the chosen WiFi network.

4.9 Deactivate the DHCP server
1. Enter the IP address of the access point of the data logger into the address line of the Internet browser.

Refer to your system administrator for the IP address of the access point. The IP address is assigned by the DHPC server of the WiFi network the data logger is connected to.

2. Tap on ENTER.
➢ The Login screen of the access point will open.
3. Enter the user name (set by the factory to root) in the field next to Username.
4. Enter the password (set by the factory to Ahlborn2016) in the field next to Password.
5. Click on Login.
4  How to configure the access point

- The configuration site of the access point will open.
6. Click on **Network**.
7. Click on **Interfaces**.
8. In the line LAN, click on **Edit**.
9. Scroll down to the section DHCP server.
10. In the tab General Setup, tick the check box next to Disable DHCP for this interface.
11. Click on **Save & Apply**.
- The DHCP server of the access point of the ALMEMO® 500 will no longer assign IP addresses.
12. In the line LAN, click on **Edit**.
13. In the tab General Setup next to Protocol, select the protocol DHCP Client.
14. Click on **Switch protocol**.
15. Click on **Save & Apply**.
5 Information regarding the subsequent login to the app

The tablet must be connected to the same WiFi network the data logger is connected to.

The data logger will now receive an IP address from the DHCP server of the connected network. Note down the IP address from the status display and enter the IP address - after starting the app – in the network settings in the field IP address (see Instruction Manual ALMEMO® 500).
Despite greatest diligence, the possibility of incorrect information cannot be excluded. Subject to technical modifications without prior notice.
You will find the present and further Instruction Manuals, as well as the ALMEMO® Manual on www.ahlborn.com under the tab SERVICE on DOWNLOADS.

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