

LUCOM GmbH

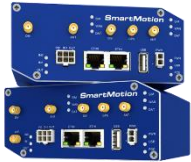
introducing

Bondix S.A.NE on an Advantech router



certified LUCOM devices to be used with Bondix S.A.NE

ADVANTECH



SmartMotion
SmartFlex
ICR-3231



Other platforms upon Request

TELTONIKA



RUT 950 / RUT 955
RUT X series

All devices are compatible with



First steps on an Advantech router



*a SmartMotion Router was used for this example

It is necessary to connect all components before putting the router into operation. So don't forget to connect your SIM cards, antennas and other cable.

First start of your router

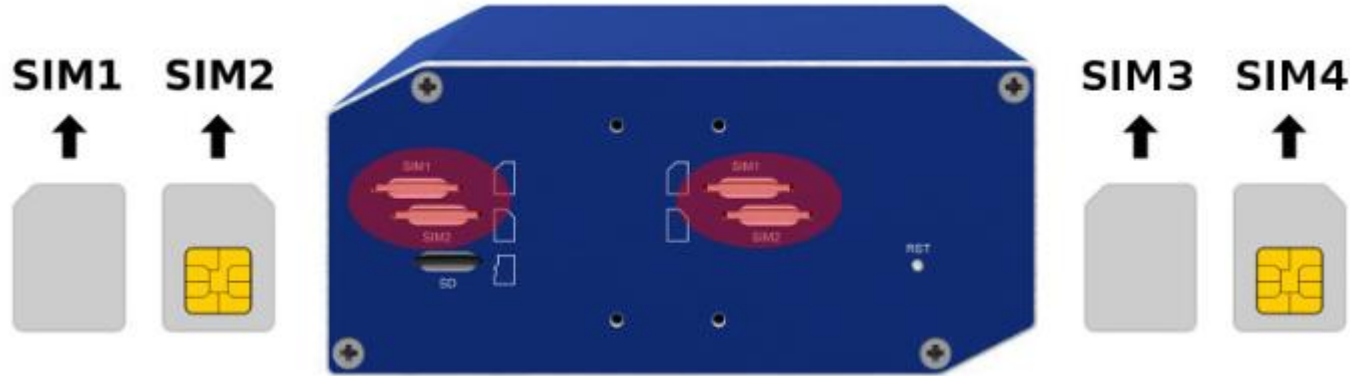
Setting up your router

Optimal router settings for Bondix S.A.NE

Installing the user module Bondix

Setting up your Bondix S.A.NE

First steps on an Advantech router



The supported type of SIM cards are Mini SIMs with the dimensions of 25.0 x 15.0 x 0.76 mm

It is necessary to insert an activated SIM card with an unblocked PIN code

First start of your router

Setting up your router

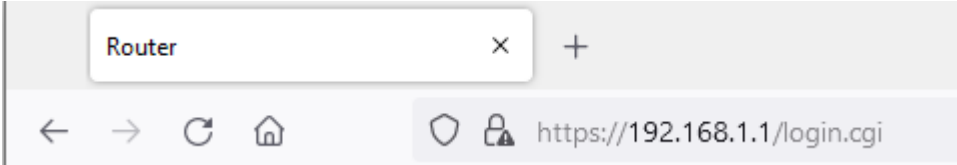
Optimal router settings for Bondix S.A.NE

Installing the user module Bondix

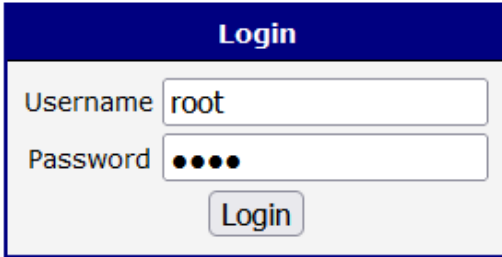
Setting up your Bondix S.A.NE

First steps on an Advantech router

You need the web interface for the router to configure Bondix S.A.NE. It has to be opened via Web Browser. The default IP address is 192.168.1.1.



To obtain the access to your router you have to type in the username „root“ and the password which is listed on the router itself

A screenshot of a login form titled "Login". It has two input fields: "Username" with the text "root" and "Password" with four black dots. Below the fields is a "Login" button.

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Configuring mobile WAN

ADVANTECH

SmartMotion ST352 LTE/LTE Router

Status	Module Switching	
General	1st module 3.	2nd module 4.
Mobile WAN	enabled	enabled
WiFi	not applicable	not applicable
Network	not applicable	not applicable
DHCP	not applicable	not applicable
IPsec		
WireGuard	1st	
DynDNS		
System Log		
Configuration	<input type="checkbox"/> Switch to the other module when signal strength drops below "weak" level (and is above "fair" level on target module)	
Ethernet	weak	fair
VRRP		
Mobile WAN 1.	Levels for GPRS/EDGE	-90 / -80 dBm
• 1st Module	Levels for UMTS/HSPA	-100 / -90 dBm
• 2nd Module 2.	Levels for LTE	-100 / -90 dBm
• Module Switching	Sampling Interval	10 sec
PPPoE	Filter Width	4 / 16 samples
WiFi	<input type="button" value="Apply"/>	
Backup Routes		
Static Routes		
Firewall		
NAT		
OpenVPN		

1. Click on Mobile WAN
2. Select Module Switching
3. Enable the first module
4. Enable the second module

First start of your router

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Configuring WiFi as an Access Point

ADVANTECH SmartMotion ST352 LTE/LTE Router

Status

- General
- Mobile WAN
- WiFi
- Network
- DHCP
- IPsec
- WireGuard
- DynDNS
- System Log

Configuration

- Ethernet
- VRRP
- Mobile WAN
- PPPoE
- WiFi**
 - Access Point 1
 - Access Point 2
- Station
- Backup Routes
- Static Routes
- Firewall
- NAT
- OpenVPN
- IPsec
- WireGuard
- GRE
- L2TP
- PPTP
- Services
- USB Port
- Scripts
- Automatic Update

Customization

- User Modules

Enable WiFi AP 1

IPv4: IPv6:

IP Address:

Subnet Mask / Prefix:

Bridged: no

Enable dynamic DHCP leases

IP Pool Start: IPv4: IPv6:

IP Pool End:

Lease Time: 600 600 sec

Enable IPv6 prefix delegation

Subnet ID *:

Subnet ID Width *: bits

SSID:

Broadcast SSID: enabled

SSID Isolation: disabled

Client Isolation: disabled

WMM: disabled

The following radio settings are common for all Access Points on WiFi module 1

Country Code *:

HW Mode: IEEE 802.11b

Channel: 1

Bandwidth: 20 MHz

Short GI: disabled

Authentication: open



By using the Router as an Access Point: Bondix will channel all the other network components/clients and provides an access point for your other devices with all benefits of Bondix S.A.NE

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Configuring WIFI as station

ADVANTECH SmartMotion ST352 LTE/LTE Router

Status WiFi STA Configuration

General

- Mobile WAN
- WiFi
- Network
- DHCP
- IPsec
- WireGuard
- DynDNS
- System Log

Configuration

- Ethernet
- VRP
- Mobile WAN
- PPPoE **1.**
- WiFi **2.**
 - Access Point 1
 - Access Point 2
 - Station **3.**
- Backup Routes
- Static Routes
- Firewall
- NAT
- OpenVPN
- IPsec
- WireGuard
- GRE
- L2TP
- PPTP
- Services
- USB Port
- Scripts
- Automatic Update

WiFi STA Configuration

Enable WiFi STA **3.**

IPv4: DHCP Client: enabled | IP Address: | Subnet Mask / Prefix: | Default Gateway: | DNS Server: | IPv6: enabled

SSID: | Probe Hidden SSID: disabled | Country Code *: DE

Authentication: WPA2-PSK | Encryption: AES | WEP Key Type: ASCII | WEP Default Key: 1 | WPA PSK Type: ASCII passphrase

WPA PSK: | RADIUS EAP Authentication: EAP-PEAP/MSCHAPv2



By using the Router as an additional channel:
Bondix will aggregate all the other network components as well as this one which resolves in a better bandwidth

1. Click on WiFi
2. Click on Station
3. Enable "WIFI STA"

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S.A.NE

Configuring WIFI as station

ADVANTECH SmartMotion ST352 LTE/LTE Router

WIFI STA Configuration

Enable WIFI STA

DHCP Client IPv4: enabled IPv6: enabled

IP Address: [] []

Subnet Mask / Prefix: [] []

Default Gateway: [] []

DNS Server: [] []

SSID: WLAN1 1.

Probe Hidden SSID: disabled

Country Code *: DE

Authentication: WPA2-PSK 2.

Encryption: open

WEP Key Type: shared

WEP Default Key: WPA-PSK

WEP Key 1: WPA2-PSK

WEP Key 2: WPA3-PSK

WEP Key 3: WPA-Enterprise

WEP Key 4: WPA2-Enterprise

WPA PSK Type: WPA3-Enterprise

802.1X

WPA PSK: []

RADIUS EAP Authentication: EAP-PEAP/MSCHAPv2

RADIUS CA Certificate: []

Durchsuchen... Keine Datei ausgewählt.

1. Type in your SSID
2. Select the authentication type

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ADANTECH SmartMotion ST352 LTE/LTE Router

Status

General
Mobile WAN
WiFi
Network
DHCP
IPsec
WireGuard
DynDNS
System Log

Configuration

Ethernet
VRRP
Mobile WAN
PPPoE
WiFi
• Access Point 1
• Access Point 2
• Station
Backup Routes
Static Routes
Firewall
NAT
OpenVPN
IPsec
WireGuard
GRE
L2TP
PPTP
Services
USB Port
Scripts
Automatic Update

Customization

User Modules

WiFi STA Configuration

Enable WiFi STA

DHCP Client IPv4: enabled IPv6: enabled

IP Address:

Subnet Mask / Prefix:

Default Gateway:

DNS Server:

SSID: WLAN1

Probe Hidden SSID: disabled

Country Code *: DE

Authentication: WPA2-PSK

Encryption: AES **1.**

WEP Key Type: none

WEP Default Key: WEP

WEP Key 1: TKIP

WEP Key 2:

WEP Key 3:

WEP Key 4:

WPA PSK Type: ASCII passphrase **2.**

WPA PSK:

RADIUS EAP Authentication: EAP-PEAP/MSCHAPv2

RADIUS CA Certificate:

Durchsuchen... Keine Datei ausgewählt.

1. Select your encryption type
2. Insert your WIFI password

Update Firmware
Reboot
Logout

RADIUS Password:

Syslog Level: informational

Extra options *

* can be blank

Apply **3.**

3. Scroll down and click on „Apply“

First start of your router

Setting up your router

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S.A.NE

Optimal router settings for Bondix S.A.NE

ADVANTECH SmartMotion ST352 LTE/LTE Router

Status

General **2.**
Mobile WAN
WiFi
Network
DHCP
IPsec
WireGuard
DynDNS
System Log

Configuration

Ethernet
VRRP
Mobile WAN
PPPoE
WiFi **1.**
Backup Routes
Static Routes
Firewall
NAT
OpenVPN
IPsec
WireGuard
GRE
L2TP
PPTP
Services
USB Port
Scripts
Automatic Update

Enable backup routes switching

Mode **Multiple WANs** **3.**

Enable backup routes

Priority
Multiple WANs
Load Balancing

Weight

Enable backup routes switching for PPPoE

Priority 1st

Ping IP Address

Ping IPv6 Address

Ping Interval sec

Ping Timeout 10 sec

Weight

Enable backup routes switching for WiFi STA

Priority 1st

Ping IP Address

Ping IPv6 Address

Ping Interval sec

Ping Timeout 10 sec

Weight

Enable backup routes switching for ETH0

Priority 1st

1. Go to your „Backup Routes“ settings
2. Enable Backup Routes Switching
3. Select Multiple WANs

First start of your router

Setting up your router

**Optimal router settings
for Bondix S.A.NE**

Installing the user
module Bondix

Setting up your Bondix
S.A.NE

Optimal router settings for Bondix S.A.NE

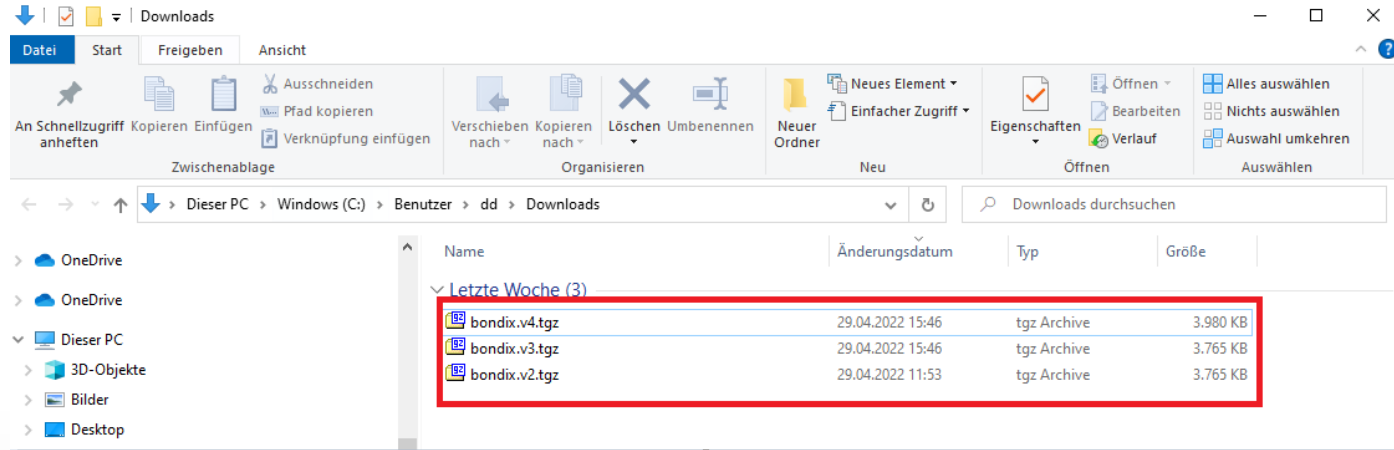


Make sure that only the backup route for ETH1 is enabled

System Log	<input type="checkbox"/> Enable backup routes switching for PPPoE
Configuration	Priority <input type="text" value="1st"/>
Ethernet	Ping IP Address <input type="text"/>
VRRP	Ping IPv6 Address <input type="text"/>
Mobile WAN	Ping Interval <input type="text"/> sec
PPPoE	Ping Timeout <input type="text" value="10"/> sec
WiFi	Weight <input type="text"/>
Backup Routes	<input type="checkbox"/> Enable backup routes switching for WiFi STA
Static Routes	Priority <input type="text" value="1st"/>
Firewall	Ping IP Address <input type="text"/>
NAT	Ping IPv6 Address <input type="text"/>
OpenVPN	Ping Interval <input type="text"/> sec
IPsec	Ping Timeout <input type="text" value="10"/> sec
WireGuard	Weight <input type="text"/>
GRE	<input type="checkbox"/> Enable backup routes switching for ETH0
L2TP	Priority <input type="text" value="1st"/>
PPTP	Ping IP Address <input type="text"/>
Services	Ping IPv6 Address <input type="text"/>
USB Port	Ping Interval <input type="text"/> sec
Scripts	Ping Timeout <input type="text" value="10"/> sec
Automatic Update	Weight <input type="text"/>
Customization	<input checked="" type="checkbox"/> Enable backup routes switching for ETH1
User Modules	Priority <input type="text" value="1st"/>
Administration	Ping IP Address <input type="text"/>
Users	Ping IPv6 Address <input type="text"/>
Change Profile	Ping Interval <input type="text"/> sec
Change Password	Ping Timeout <input type="text" value="10"/> sec
Two-Factor Authentication	Weight <input type="text"/>
Set Real Time Clock	
Set SMS Service Center	
Unlock SIM Card	
Unblock SIM Card	
Send SMS	
Backup Configuration	
Restore Configuration	
Update Firmware	
Reboot	

Installation of Bondix S.A.NE

Install the latest version of Bondix by clicking [here](#)



First start of your router

Setting up your
router

Optimal router
settings for Bondix
S.A.NE

**Installing the user
module Bondix**

Setting up your
Bondix S.A.NE

Installation of Bondix S.A.NE

ADVANTECH SmartMotion ST352 LTE/LTE Router

Status

General
Mobile WAN
WiFi
Network
DHCP
IPsec
WireGuard
Dyndns
System Log

Configuration

Ethernet
VRRP
Mobile WAN
PPPoE
WiFi
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IPsec
WireGuard
GRE
L2TP
PPTP
Services
USB Port
Scripts
Automatic Update

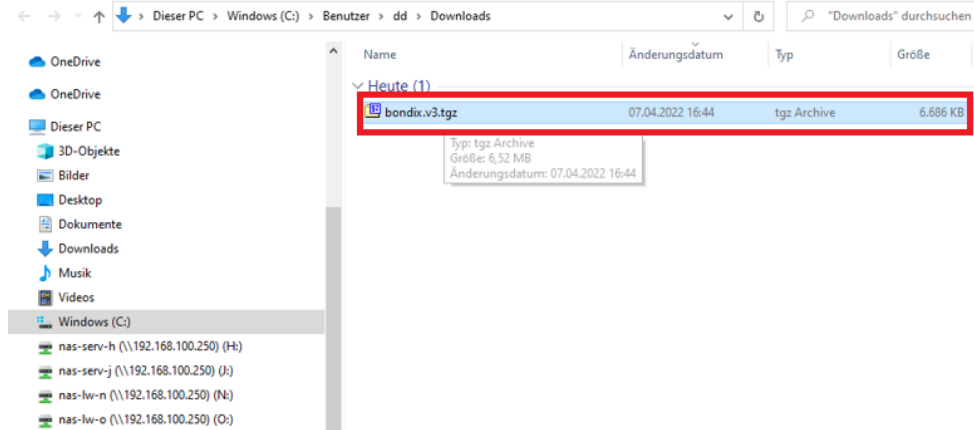
Customization

User Modules

Administration

Users
Change Profile
Change Password
Two-factor Authentication
Set Real Time Clock
Set SMS Service Center
Unlock SIM Card
Unblock SIM Card
Send SMS
Backup Configuration
Restore Configuration
Update Firmware
Reboot

1. Go to User Modules
2. Click on Search



Select the File with the datatype .tgz and click on „open“

First start of your router

Setting up your router

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Installation of Bondix S.A.NE

ADVANTECH SmartMotion ST352 LTE/LTE Router

Status

General
Mobile WAN
WiFi
Network
DHCP
IPsec
WireGuard
DynDNS
System Log

GPS 1.8.0 (2020-10-01) [Delete](#)

New Module bondix.v3.tgz [Add or Update](#)

Configuration

Ethernet
VRRP
Mobile WAN
PPPoE
WiFi
Backup Routes
Static Routes
Firewall
NAT
OpenVPN
IPsec
WireGuard
GRE
L2TP
PPTP
Services
USB Port
Scripts
Automatic Update

Customization

User Modules

Click on „Add or Update“ and wait for it to be finished



User Module

Module successfully added or updated.

[Back](#)

You will receive a pop-up if it was successfully installed

First start of your router

Setting up your router

Optimal router settings for Bondix S.A.NE

Installing the user module Bondix

Setting up your Bondix S.A.NE

Setting up Bondix S.A.NE

ADVANTECH SmartMotion ST352 LTE/LTE Router

Status

General **2.** Bondix Cloud Client 202111151557-b031d15e
Mobile WAN
WiFi
GPS 1.8.0 (2020-10-01)

Network
DHCP
IPsec
WireGuard
DynDNS
System Log

Configuration

Ethernet
VRRP
Mobile WAN
PPPoE
WiFi
Backup Routes
Static Routes
Firewall
NAT
OpenVPN
IPsec
WireGuard
GRE
L2TP
PPTP
Services
USB Port
Scripts
Automatic Update

Customization

User Modules **1.**

1. Get back to the User Modules and click on it
2. Open „Bondix Cloud Client“

First start of your router

Setting up your router

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Setting up your Bondix S.A.NE

Setting up Bondix S.A.NE

Bondix Cloud Client

Configuration		
Settings		
Return		
<input checked="" type="checkbox"/> Enable Bondix S.A.NE Bonding	1.	
Endpoint Server	23.88.52.152	
Tunnel Name	demo0666	
Tunnel Password	••••••••	
<input checked="" type="checkbox"/> Enable Bonding Proxy	3.	
Interface	Preset	Backup
<input checked="" type="checkbox"/> Secondary LAN	Optimize for Speed	<input type="checkbox"/>
<input checked="" type="checkbox"/> First mobile WAN	Optimize for Speed	<input type="checkbox"/>
<input checked="" type="checkbox"/> Secondary mobile WAN	Optimize for Speed	<input type="checkbox"/>
<input type="checkbox"/> Primary LAN	Optimize for Speed	<input type="checkbox"/>
<input type="button" value="Apply"/>		

1. Enable Bondix S.A.NE Bonding
2. Insert your credentials which you have received in a mail
3. Enable Bonding Proxy to optimize the performance

First start of your router

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Setting up Bondix S.A.NE

Bondix Cloud Client

Configuration
Settings
Return

Enable Bondix S.A.NE Bonding
Endpoint Server
Tunnel Name
Tunnel Password
 Enable Bonding Proxy

Interface	Preset	Backup
<input checked="" type="checkbox"/> Secondary LAN	Optimize for Speed	<input type="checkbox"/>
<input checked="" type="checkbox"/> First mobile WAN	Optimize for Speed	<input type="checkbox"/>
<input checked="" type="checkbox"/> Secondary mobile WAN	Optimize for Latency	<input type="checkbox"/>
<input type="checkbox"/> Primary LAN	Fixed Line	<input type="checkbox"/>
	Satellite	

Apply

The presets can be changed to the preferable Usage

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LUCOM GmbH

Elektrokomponenten und
Systeme

Flössaustraße 22a

90763 Fürth

Tel.: 0911 - 957 606 00

www.lucom.de



we
connect
the world.