

## EW500A0203 User Guide

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#### Sommario

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## Introduction

ESA EW500A series mobile wifi externder is a compact router mainly intended for lot 4.0 applications.

It is based on a powerful 32 bits industrial communication processor and real time operating system Linux based.

It the ESA device portfolio it must be used in order to provide wifi or 3G/4G connectivity to the device that do not have integrated wifi peripherails for the internet connection.

### Hardware description

- DC power supply (7.5v 32v)
- RJ45 LAN port connection
- RJ45 WAN port connection
- 3G 4G sim card slot
- Wifi client mode connection
- Wifi antenna
- 3G / 4G antenna



## EW500A login and status

### Step 1: Power On

Connect the power supply unit to the power connector (12V DC / 1.5 A) or any external power supply (7.5 V DC - 32 V DC).

### Step 2: Connect to your computer

Use a standard RJ45 ethernet cable to connect the LAN port to your computer ethernet port.

The router is equipped with a DHCP server so you can set DHCP support in your computer ethernet port setting.

The default Ip address of the EW500x LAN port is 196.168.1.1



### Step 3: Login

As soon as the ethernet connection is established the following login page is displayed:



The default login parameters are:

Username: admin Password: admin

Once logged in the page below will be displayed:

						Esaw	are	Router
System Status 🔷 🍕								Tab operation +
Basic Network >	Ctatua							ń
Advanced Network >	Status							
	System							
VPN Configuration	Router Name	M2M		Product Name	EW500A			
System Management>	Router Model	AP147 Reference Board		Product ID	1120ZR21806250040			
System Diagnostics	Firmware Version	QSDK Premium Wireless Router V	1.0.8.1015	Hardware Class	Single Model Single Card			
-,,	Kernel Version	3.3.8		Hardware Version	v1.2			
Logout	Local Time	Thu Nov 8 01:31:47 2018		MAC Address	34.0a.68.24.3a.bf			
	Uptime	1h 21m 11s		WAN Mode	3G/4G and Wired			
	Load Average	0.15, 0.09, 0.06		Vendor	ESA			
	3G/4G WAN Status							
	Address		10.31.75.0					
	Gateway		10.31.75.1					
	DNS		217.200.201.64 / 217.200.201.65					
	Modem Type		FDD-LTE/TDD-LTE/WCDMA/GSM					
	Modem Model		QUECTEL EC25-EFA					
	Modem IMEI		861107035559237					
	Modem IMSI		222018702541439					
	Network Operator		TIM WAP					
	Current Network Standard		AUTO					
	LIGILI Statue		simraadu					-



This page will show the current situation:

System informations 3G/4G WAN status Wired WAN status DHCP connections

# EW500A basic programming

Open the Basic Network Menu in order to display the different connections parameters:



Here below the most important settings necessary for the different possible connections.



### Wired network

The below page will be displayed with the parameter settings for both the WAN and LAN connections.

WAN:

	Es	aware Router
System Status >	Wand Network x	H Tab operation -
Basic Network ~		
Switch	WAN LAN	
Hostnames	Interfaces - WAN	
Static Routes	On this page you can configure the network interfaces. You can bridge several interfaces by ticking the "bridge interfaces" field and enter the names of several network interfaces separated by sp <u>VLAN</u> notation INTERFACE.VLANTR (e.g.: ecbo. 1).	aces. You can also use
Wired Network		
Mobile Network	General Setup Advanced Settings	
Wireless Network	Status Uptime: 0h 0m 0s	
Static address	etho RX codo 8 (0 Pirts) TX codo 8 (0 Pirts)	
Advanced Network >	Protocol DHCP client	
VPN Configuration >	Hostname to send when requesting DHCP M2M	
System Management>		
System Diagnostics >		
Logout	s	AVE & APPLY RESET

LAN:

		Esaware Route	r
System Status > 4	Wired Network ×	Here Tab operation	on-
Basic Network ~			1
Switch	WAN LAN		
Hostnames	Interfaces - LAN		
Static Routes	On this page you can configure the network interf <u>VLAN</u> notation INTERFACE.VLANNR (e.g.: eth0.1).	sfaces. You can bridge several interfaces by ticking the "bridge interfaces" field and enter the names of several network interfaces separated by spaces. You can also use .).	
Wired Network			
Mobile Network	General Setup Advanced Settings		
Wireless Network	Statu	tus Uptime: 1h 46m 41s	
Static address		00 RR: 3.16 MB ((6082 PMts)) br-lan TX: 19.39 MB (26174 PMts.)	
Advanced Network >		IPv4: 192.168.1.1/24, 172.16.0.1/24	
VPN Configuration >	Protoco	col Static address	
System Management>	IPv4 address	192.168.1.1	
Custom Diseasedine .	IPv4 netmasi	tsk 255.255.255.0 ¥	
system blagnostics 7	IPv4 gateway	vay	
Logout	IPv4 broadcas	ast	
	Use custom DNS servers	RS	
			-



### Mobile network

The below page does include all the setting parametrs necessary for a 3G / 4G mobile Network connection.

		e Router
System Status	44 Wired Network x Mobile Network x M	Tab operation +
Basic Network ~		
Switch	SCWART	
Hostnames	Interfaces - 3GWAN1	
Static Routes	On this page you can configure the network interfaces. You can bridge several interfaces by ticking the "bridge interfaces" field and enter the names of several network interfaces separated by spaces. Yo VLAN notation INTERFACE.VLANDR (e.g.; etb).1).	a can also use
Wired Network		
Mobile Network	General Setup Advanced Settings	
Wireless Network	Status Uptime: 1h 47m 58s	
Static address	eth2 TX 2.20 M8 (1895 Pkts.)	
Advanced Network >	Pr4; 10.31.75.0/23	
VPN Configuration >	Protocol DHCP dient	
System Management>	Hostname to send when requesting DHCP M2M	
of stem management	PIN	
System Diagnostics >	Network Type Auto	
Logout		
	APN wap.tim.t	
	PAP/CHAP username	
	PAP/CHAP password	

The 3G / 4G antenna must be connected to the 3G/4G connector.





### Wireless network

The user can force a SCAN of the wifi connection available, select the one he wants to use and insert the connection password.

						E	saware I	Router
System Status >	V/Ired Network X Mobile Nets	Vireless Network #					*	Tab operation -
Basic Network ~								
Switch	write: Master "EW500A-243abl"							
Hostnames	Wireless Overview							
Static Routes								
Wired Network	Generic Atheros Channet: 11 (2.462	802.11bgn (wifi0) GHz)   Bitrate: 144.4 Mbit/s						SCAN
Mobile Network	0% BSSID: EW500A-	243abf   Mode: Master 24:3A:C1   Encryption: None					DISABLE	EDIT
Wireless Network	0.0	,						_
Static address	Associated Stations							
Advanced Network >								
VPN Configuration >	SSID	MAC-Address	IPv4-Address	Signal	Noise	RX Rate	TX Bate	
System Management>			No information avai	lable				
System Diagnostics >								
Logout								

The wifi antenna must be connected to the Aux connector.





## EW500A advanced programming

### **Firewall policies**

In this section the user can define the product firewall policies. This is necessary in case the EW500 is the entry point for the LAN internet connection. The default configuration is intended in order to provide the default filtering configuration for a standard http or https support.

											Router
System Status > ++	Port Forwards x Firewall x									*	Tab operation
Basic Network											
Advanced Network 🗸	General Settings Traffic Rules Custom Rules										
QoS	Firewall - Zone Settings The firewall creates zones over your network interfa	ces to control network traffic flow.									
DMZ											
Firewall	General Settings	79									
Port Forwards	Enable STN-Hood protection										
Smart Link	Drop invalid packets										
M2M Platform	Input	accept 👻									
Load Balancing	Output	accept 🔹									
UDP Relay	Forward	accept 💌									
Network Monitor											
Dynamic DNS											
VPN Configuration >	Zones	Zone => Forwardings			Input	Output	Forward	Masquerading	MSS clamping		
System Management>		lan: lan: ♣ wwan1:  → y	van		accept -	accept -	accept 💌			EDIT DEL	ETE
System Diagnostics >	wan wan 8 3mmal-8	n20:	19 wwar 19 ware 10	⇒ ACCEPT	accept 💌	accept 💌	accent	7	2	EDIT	TE
Logout	Mar. Mar. 20 Ografii. 20	and and bhburg ishi	mail 2		arreste -	occept [	occept 1			-con Dec	
	ADD										
										SAVE & APPLY	RESET

Here below the Advanced setting section where the user can define very strict firewall policies based on Ip address sorce and destinations and even log all the traffic.



AUTOMATION	Esaware Route	er
System Status	4 Frends	ation
Basic Network		
Advanced Network 🗸	General Settings Traffic Rules Custom Rules	
Q0S	Firewall - Zone Settings - Zone "wan"	
DMZ	Zone "wat"	
Firewall	This section defines common properties of Yeari. The input and output options set the default policies for traffic entering and leaving this zone while the forward option describes the policy for forwarded traffic between different networks within the zone. Covered networks generities which available networks are methed of this zone.	
Port Forwards	General Settings Advanced Settings	
Smart Link	Restrict to address family pive and pive -	
Load Balancing	Restrict Massperading to given source subnets	
UPNP	Exception Description to allow determines	
UDP Relay	00.0.0 stoka	
Network Monitor	Force connection tracking 🔄	
Dynamic DNS	Enable logging on this zone	
VPN Configuration		
System Management>		
System Diagnostics >	mer-code revenang	
Logout	underectional, e.g. a forward from Ian to wan does not imply a permission to forward from wan to Ian as well.	
	Autor to mail to destantion Confer	
	Allow forward from source zones 👳 🔤 ker kin 🔔 verant: 🗃	

### Traffic rules

In this section the user is free to do some traffic restrictions in incoming and outgoing directions by clicking Add New Forward rules.

The restriction can be based on the following parameters:

Network port Ip address MAC address

And also based on specific communication protocols.



							vare Rou
System Status >	+ Firewall ×						➡ Tab op
Basic Network >	General Settings Traffi	c Rules					
QoS	Firewall - Traffic Rules Traffic rules define policies	s for packets traveling between different zones, for example	to reject traffic between certain hosts or to oper	WAN po	rts on the	router.	
DMZ	Traffic Pulse						
Firewall	Name	Match	Action	Enable	Sort		
Port Forwards Smart Link	Allow-DHCP-Renew	IPv4-UDP From <i>any host</i> in <i>wan</i> To <i>any router IP</i> at port <i>68</i> on <i>this device</i>	Accept input	V	• •	EDIT	DELETE
M2M Platform Load Balancing	Allow-Ping	IPv4-ICMP with type <i>echo-request</i> From <i>any host</i> in <i>wan</i> To <i>any router IP</i> on <i>this device</i>	Accept input	V	• •	EDIT	DELETE
UPNP UDP Relay Network Monitor	Allow-DHCPv6	IPv6-UDP From IP range FE80.0.0.0.0.0.0.0.10 in wan with source port 547 To IP range FE80.0.0.0.0.0.0.010 at port 546 on this device	Accept input	V	* <b>*</b>	EDIT	DELETE
Dynamic DNS PN Configuration > ystem Management>	Allow-ICMPv6-Input	IPv6-ICMP with types echo-request, echo-reply, destination-umreachable, packet-too-big, time- exceeded, backet, uninovum-header-type, router- solicitation, neighbour-solicitation, router- advertisement, neighbour-advertisement From any host in wan To any router IP on this device	Accept input and limit to 1000 pkts. per second	V	• •	EDIT	DELETE
ystem Diagnostics → ogout	Allow-ICMPv6-Forward	IPv6-ICMP with types echo-request, echo-reply, destination-unreachable, packet-too-big, time- exceeded, bad-header, unknown-header-type From any host in wan To any host in any zone	Accept forward and limit to 1000 pkts. per second	V	• •	EDIT	DELETE

Naille			External port						
New input rule	TCP+U	OP 🔻		ADI	D				
New forward rule:									
Name	Source	zone Des	stination zone						
test	lan	-	wan 💌	ADD AND ED	π				
urce NAT									
ource NAT ource NAT is a specific	c form of masqu	uerading which	ch allows fine gr	ained control	over the source IP (	used for outgoing traff	c, for example to m	nap multiple WAN addres	ises t
ource NAT ource NAT is a specific iternal subnets.	c form of masqu	uerading whic	ch allows fine gr	ained control	over the source IP o	ised for outgoing traff	c, for example to m	nap multiple WAN addres	ses t
ource NAT ource NAT is a specific iternal subnets. Name	c form of masqu	uerading which	ch allows fine gr	ained control	over the source IP (	used for outgoing traff Enable	c, for example to m	nap multiple WAN addres Sort	ses t
urce NAT ource NAT is a specific iternal subnets. <b>Name</b>	c form of masqu	uerading white Match	ch allows fine gr	ained control	over the source IP u	ised for outgoing traff Enable	c, for example to m	nap multiple WAN addres Sort	ses 1
ource NAT ource NAT is a specific iternal subnets. <b>Name</b>	c form of masqu	uerading which	ch allows fine gr h	ained control A section conta	over the source IP o .ction nins no values yet	used for outgoing traff Enable	c, for example to n	nap multiple WAN addres Sort	ses t
ource NAT ource NAT is a specific iternal subnets. Name New source NAT:	c form of masqu	uerading whice Match	ch allows fine gr n This	ained control	over the source IP o .ction nins no values yet	ised for outgoing traff Enable	c, for example to m	nap multiple WAN addres Sort	ises t
ource NAT ource NAT is a specific iternal subnets. Name New source NAT: Name Sou	c form of masqu	uerading which Match	ch allows fine gr This	ained control A section conta urce IP	over the source IP o action ins no values yet To source port	ised for outgoing traff Enable	c, for example to m	nap multiple WAN addres Sort	ses t
ource NAT ource NAT is a specifie iternal subnets. Name New source NAT: Name Sou	c form of masqu Irce zone Dest	uerading which Match	ch allows fine gr This	ained control A	over the source IP ( .ction ins no values yet To source port	ised for outgoing traff	c, for example to m	nap multiple WAN addres Sort	sses t
Name Source NAT Name Source NAT Name Source NAT Name Source NAT New NAT table v	c form of masqu Irce zone Desi van 💌	uerading which Match tination zone	ch allows fine gr This This 192.168.1.	ained control	over the source IP o uction ins no values yet To source port 80	Enable	c, for example to m	nap multiple WAN addres Sort	sses t
Nurce NAT ource NAT is a specific ternal subnets. Name New source NAT Name Sou Vew NAT table V	s form of masqu Irce zone Desi van 💌	uerading which Match Match Internation zone	ch allows fine gr This This 192.168.1.:	ained control A section conta urce IP L (br-lan)	over the source IP ( .ction ins no values yet To source port 80	Enable	c, for example to m	nap multiple WAN addres Sort	sses t
New Source NAT Name Source NAT is a specific Name Source NAT: Name Source NAT:	c form of masqu arce zone Desi van 💌	Match	ch allows fine gr This This 192.168.1.3	A section control urce IP	tetion tetion tins no values yet	Enable	c, for example to m	nap multiple WAN addres	sses t



### Port forwarding

The user can add port forwarding rules.

Port forwarding allows remote computers to connect a specific computer or service in the private LAN.



In case of more specific filtering required via the Edit button the user can create his own more precise configuration.

AUTOMATION							Es	aware	Router
System Status >	Port Forwards ×							*	Tab operation -
Basic Network	Firewall - Port F	orwards							
Advanced Network 🗸	Port forwarding allo	ws remote computers on	the Internet to conr	nect to a specific computer	or service within the	private LAN.			
QoS	Port Forwards								
DMZ	Name	Match	1	Forward to	Enable	Sort			
Firewall	_	IPv4-TCP, I From any hos	UDP tin wan	any host in lan		· ·	EDIT	DELETE	
Port Forwards		Via <i>any rou</i>	ter IP						
Smart Link	Name	Protocol Ex	ternal zone Exter	rnal port internal zone	Internal IP	address	Internal port		
M2M Platform	New port for	TCP+UDP -	wan 💌 Any	lan 👻		-	Any ADD		
Load Balancing									
UPNP							SA	VE & APPL	RESET



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