RUT230 Routing (legacy WebUI)

The information in this page is updated in accordance with firmware version **RUT2XX_R_00.01.14.7**.

Notice: This device has entered it's EOL (End of Life) cycle. For more information, visit our EOL policy here. Temporarily, some content in this page might not match features found in firmware listed above.

*Note: this user manual page is for RUT230's old WebUI style available in earlier FW versions. **Click here** for information based on the latest FW version.*

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Summary

This chapter of the user manual provides an overview of the **Routing** page for RUT230 devices.

Static Routes

Static Routes specify over which interface and gateway a certain host or network can be reached. In this page you can configure your own custom routes.

Field	Value	Description
Routing table	Main | WAN | WAN2 | WAN3; default: **Main**	Defines which table will be used for the route in question.
Interface	LAN | WAN(Wired) | WAN2(Mobile) | WAN3(WiFi) | VPN instances; default: **LAN**	The zone where the target network resides.
Destination address*	ip; default: **none**	The address of the destination network.
Netmask*	ip; default: **none**	A Mask that is applied to the Target to determine to what actual IP addresses the routing rule applies.
Gateway	ip; default: **none**	Defines where the router should send all the traffic that applies to the rule.
Metric	integer; default: **none**	The **Metric** value is used as a sorting measure. If a packet about to be routed fits two rules, the one with the higher metric is applied.

*Additional notes on Destination & Netmask:

You can define a rule that applies to a single IP like this: Destination - some IP; Netmask - 255.255.255.255. Furthermore, you can define a rule that applies to a segment of IPs like this: Destination – some IP that STARTS some segment; Netmask – Netmask that defines how large the segment is. e.g.:

Field	Value	Description
192.168.55.161	255.255.255.255	Only applies to 192.168.55.161
192.168.55.0	255.255.255.240	Applies to IPs in the 192.168.55.0 - 192.168.55.15
192.168.55.240	255.255.255.240	192.168.55.240 - 192.168.55.255
192.168.55.161	255.255.255.0	192.168.55.0 - 192.168.55.255
192.168.0.0	255.255.0.0	192.168.0.0 - 192.168.255.255

Static IPv6 Routes

Settings for Static IPv6 routes are similar to IPv4.

Field	Value	Description
Interface	Wired WAN IPv6 | Mobile WAN IPv6 | Wi-Fi IPv6; default: **Wired WAN IPv6**	Defines which interface will be used.
Target	default: **none**	The address of the destination network.
IPv6-Gateway	ipv6; default: **none**	Defines where the router should send all the traffic that applies to the rule.
Metric	integer; default: **none**	The **Metric** value is used as a sorting measure. If a packet about to be routed fits two rules, the one with the higher metric is applied.

Static ARP Entries

Static ARP Entries are used to bind a MAC address to a specific IP address. For example, if you want a device to get the same IP every time it connects to the router, you can create a Static ARP entry by binding that device's MAC address to the desired IP address. The router will then create an entry in the ARP table, which in turn will make sure that that device will get the specified IP address every time.

Dynamic Routes

BGP Protocol

Border Gateway Protocol (BGP) is a standardized exterior gateway protocol designed to exchange routing and reachability information among autonomous systems (AS) on the Internet. The protocol is often classified as a path vector protocol but is sometimes also classed as a distance-vector routing protocol. The Border Gateway Protocol makes routing decisions based on paths, network policies, or rule-sets configured by a network administrator and is involved in making core routing decisions.

General Settings

Field	Value	Description
Enable	yes | no; default: **no**	Toggles the BGP protocol on or off.
Enable vty	yes | no; default: **no**	Toggles vty access from LAN ON or OFF.
Import config	-	Uploads an external BGP configuration.

BGP Instance

Field	Value	Description
Enable	yes | no; default: **no**	Toggles the BGP instance on or off.
Use IPv6	yes | no; default: **no**	Use IPv6 address family in the configuration.
AS	integer; default: **none**	AS number is an identification of an autonomous system. BGP protocol uses the AS number for detecting whether the BGP connection is an internal one or external one. **[Required]**.

BGP router ID	string; default: **none**	The router id is used by BGP to identify the routing device from which a packet originated. Default router ID Value is selected as the largest IP Address of the interface.
Network	string; default: **none**	Add an announcement network(s).
Redistribution options	Connected routes | Kernel added routes | OSPF routes | Static routes; default: **none**	Select routes which you want to redistribute into BGP.

BGP Peers

Field	Value	Description
Enable	yes | no; default: **no**	Toggles the BGP peer on or off.
Remote AS	integer; default: **none**	Neighbour's remote AS.
Remote address	ip; default: **none**	Neighbour's remote IPv4 address.

Access List Filters

Field	Value	Description
Enable	yes | no; default: **no**	Toggles the Access filter on or off.
Peer	bgp peer; default: **first peer on list**	Applies the rule for the specified peer.
Action	Permit | Deny; default: **Permit**	Denies or permits matched entry.
Network	Any | ip; default: **Any**	Applies filter rule for this source network.
Direction	Inbound | Outbound; default: **Inbound**	If direction is **Inbound**, the access list is applied to input routes. If direction is **Outbound**, the access list is applied to advertised routes.

RIP Protocol

The **Routing Information Protocol (RIP)** is one of the oldest distance-vector routing protocols which employ the hop count as a routing metric. RIP prevents routing loops by implementing a limit on the number of hops allowed in a path from source to destination. The maximum number of hops allowed for RIP is 15, which limits the size of networks that RIP can support. A hop count of 16 is considered an infinite distance and the route is considered unreachable. RIP implements the split horizon, route poisoning and holddown mechanisms to prevent incorrect routing information from being propagated.

General

Field	Value	Description
Enable	yes | no; default: **no**	Toggles RIP Protocol on or off.
Enable vty	yes | no; default: **no**	Toggles vty access from LAN on or off.
Import config	-	Uses imported RIP configurations.
Version	2 | 1; default: **2**	Specifies the version of RIP.
Neighbor	ip; default: **none**	Neighbour IP addres.

RIP Interfaces

Field	Value	Description
Enable	yes | no; default: **no**	Toggles RIP Interface on or off.
Interface	network interface; default: **lo**	Network interface to be used with the RIP interface.
Passive interface	yes | no; default: **no**	Sets the specified interface to passive mode. On passive mode interface, all receiving packets are processed as normal and ripd does not send either multicast or unicast RIP packets.

Access list filters

Field	Value	Description
Enable	yes | no; default: **no**	Toggles the Access filter on or off.
RIP interface	RIP interface; default: **first interface on list**	Applies the rule for the specified interface.
Action	Permit | Deny; default: **Permit**	Denies or permits matched entry.
Network	Any | ip; default: **Any**	Applies filter rule for this source network.
Direction	Inbound | Outbound; default: **Inbound**	If direction is **Inbound**, the access list is applied to input routes. If direction is **Outbound** the access list is applied to advertised routes.

OSPF Protocol

Open Shortest Path First (OSPF) is a routing protocol for Internet Protocol (IP) networks. It uses

a link state routing (LSR) algorithm and falls into the group of interior gateway protocols (IGPs), operating within a single autonomous system (AS). It is defined as OSPF Version 2 in RFC 2328 for IPv4.

General Settings

Field	Value	Description
Enable	yes | no; default: **no**	Toggles OSPF Protocol on or off.
Enable vty	yes | no; default: **no**	Toggles vty access from LAN on or off.
Import config	-	Uses imported OSPF configurations.
Router ID	ip; default: **none**	Sets the router ID of the OSPF process. The router ID may be an IP address of the router, but not necessary, it also can be any arbitrary 32bit number.

OSPF Interface

Field	Value	Description
Enable	yes | no; default: **no**	Toggles OSPF interface on or off.
Cost	integer [1..65535]; default: **10**	The cost Value is set to router-LSA's metric field and used for SPF calculation.
Hello interval	integer [1..65535]; default: **10**	Hello packets will be sent at the frequency specified in this field (in seconds).
Router dead interval	integer [1..65535]; default: **40**	This Value must be the same for all routers attached to a common network.
Retransmit	integer [1..65535]; default: **5**	This Value is used when re-transmitting Database Description and Link State Request packets.
Priority	integer [0..255]; default: **1**	The router with the highest priority will be more eligible to become the Designated Router. Setting the Value to 0, makes the router ineligible to become the Designated Router.
Type	Broadcast | Nonbroadcast | Point-to-point | Point-to-multipoint; default: **none**	Set explicit network type for the specified interface.
Authentication	None | Password | MD5 HMAC; default: **none**	Specifies the authentication mode that should be used for the interface.

OSPF Networks

Field	Value	Description
Enable	yes | no; default: **no**	Toggles OSPF network on or off.
Network	[a.b.c.d/m]; default: **none**	This command specifies the OSPF enabled interface. If the interface has an address from the range **a.b.c.d/m** then enables OSPF on this interface so the router can provide network information to the other OSPF routers via this interface.
Area	ospf area; default: **none**	Specifies OSPF area.