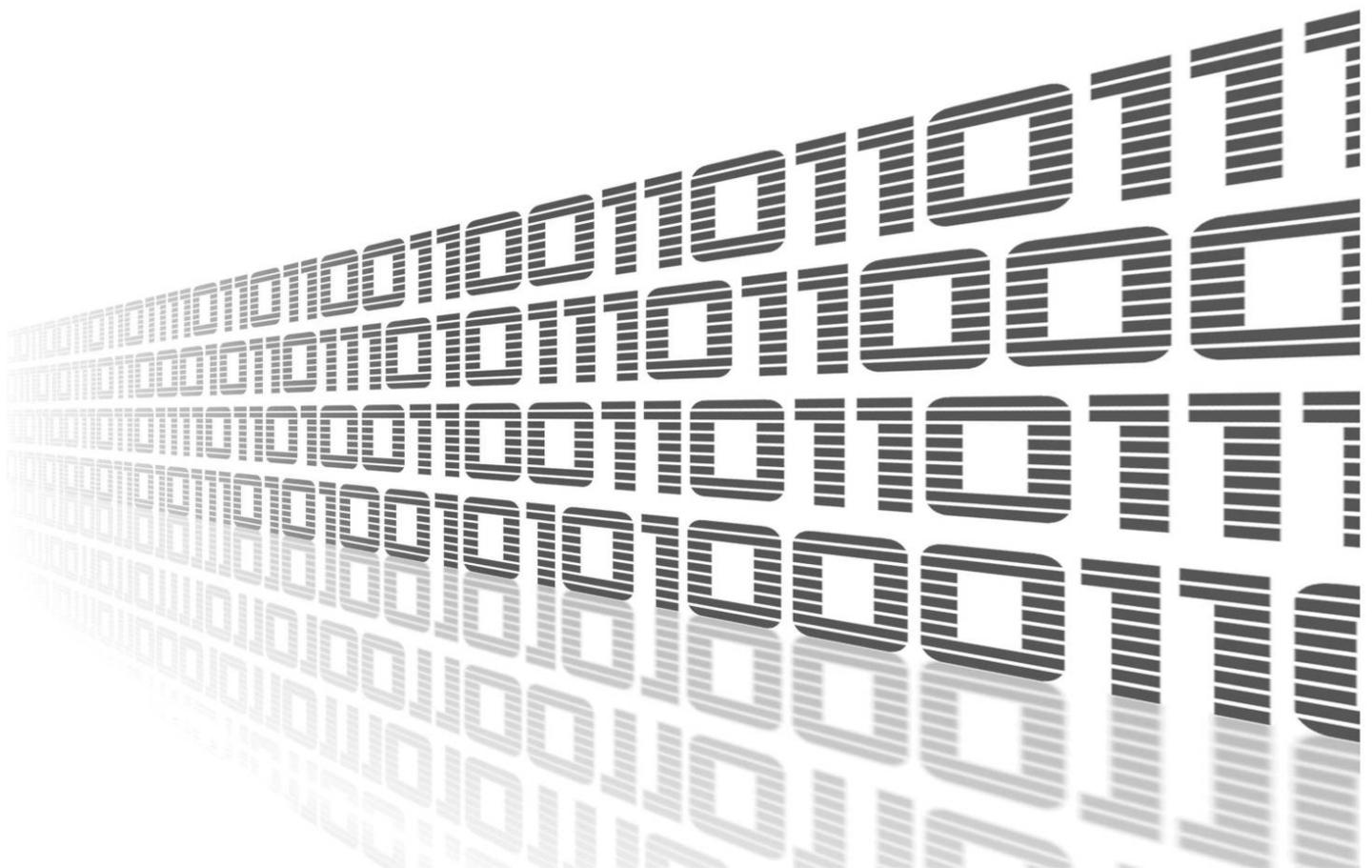


ADVANTECH



Packet Splitter



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Used symbols

 *Danger* – Information regarding user safety or potential damage to the router.

 *Attention* – Problems that can arise in specific situations.

 *Information* – Useful tips or information of special interest.

 *Example* – Example of function, command or script.

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1. Changelog

1.1 Packet Splitter Changelog

v1.0.1 (2014-07-22)

- First release

v1.1.0 (2017-03-20)

- Recompiled with new SDK

v1.2.0 (2020-09-04)

- Added support for multiple sources

v1.3.0 (2020-10-01)

- Updated CSS and HTML code to match firmware 6.2.0+

2. Router App Description



Router app *Packet Splitter* is not contained in the standard router firmware. Uploading of this router app is described in the Configuration manual (see Chapter [Related Documents](#)).

Packet Splitter module allows duplication of data flow to more targets (up to 7 different connections). It is suitable for applications where duplication of data flow is needed – e. g. data collecting for statistic reasons, or sending data from bar code reader to more targets, etc. The functional principle of this module is represented on picture 1.

After uploading the *Packet Splitter* module it is possible to define up to 5 TCP/UDP connections and if there are expansion ports RS232 or RS485/422 in router, 2 more serial connections can be defined (depends on the number of expansion ports). The defined number of connections doesn't have to be the final duplicated data flows number – e. g. when connection to TCP server defined, more clients can contact the server and ask the data. After definition of connections, it is possible to set up one connection as data source and more connections as data targets.

Configuration of *Packet Splitter* module is accessible through router's web interface in section *Customization*. Clicking on *Router Apps*, uploaded router apps are written out. To configure the module, click on *Packet Splitter*.

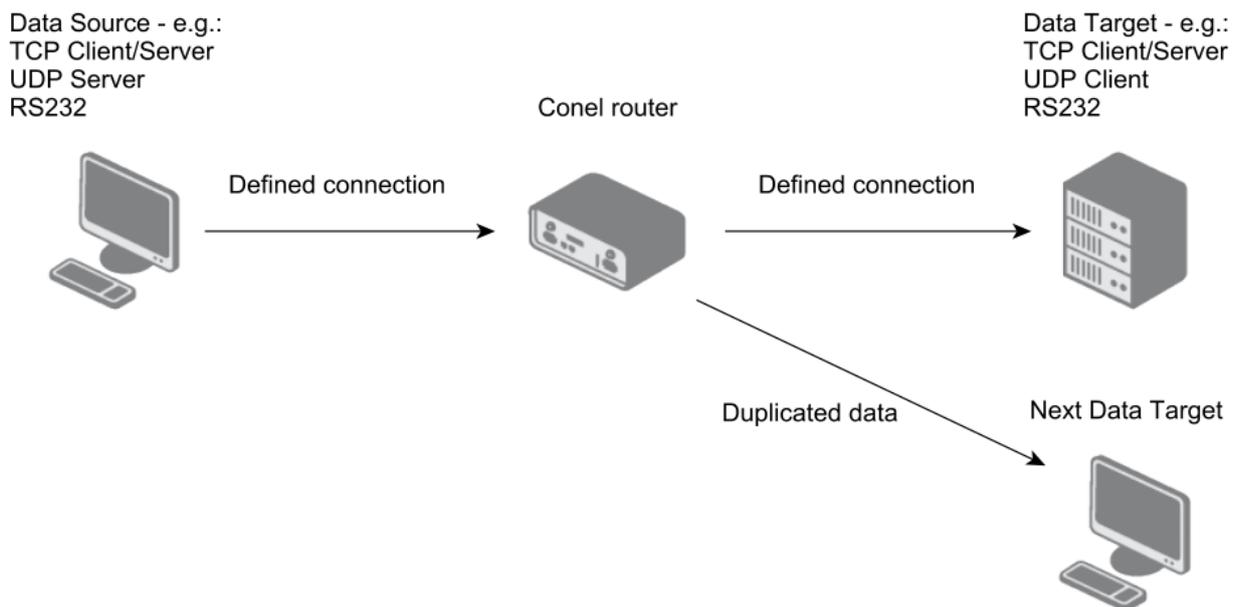


Figure 1: Function of the *Packet Splitter* module

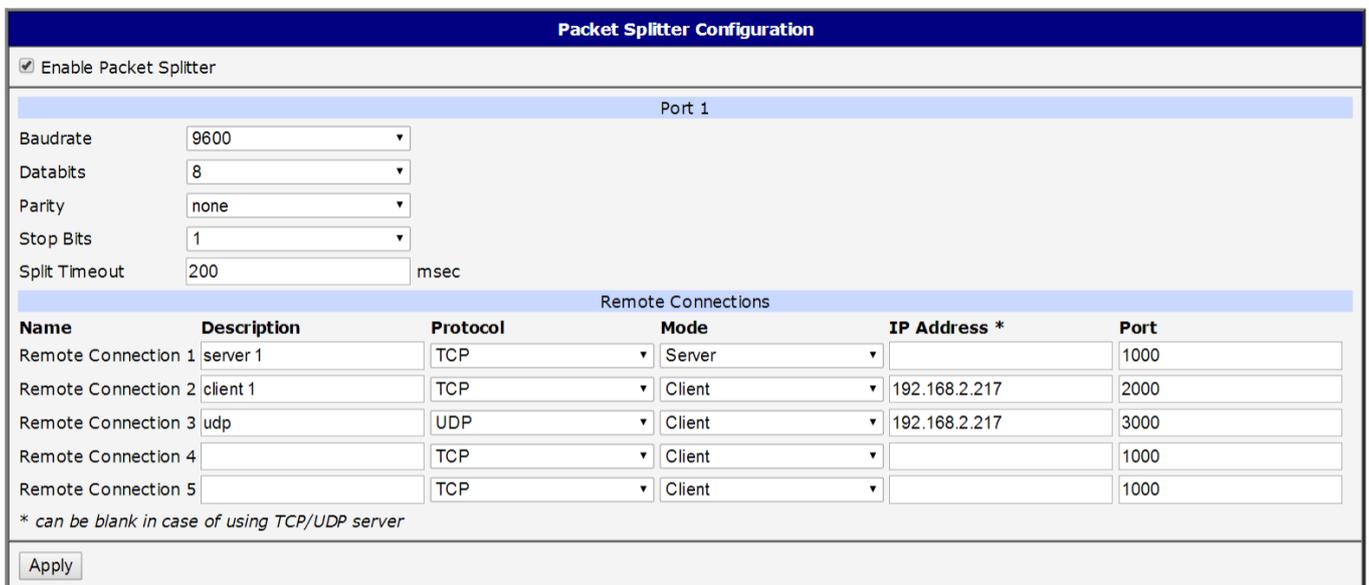
3. Configuration

On the pic. 5 there's the menu of the *Packet Splitter* depicted. The *Configuration* section is split in two parts. In the *Global* part module *Packet Splitter* can be activated and module's connections can be defined. In the *Targets* part one connection can be set up as data source and more connections as data targets. In the section *Status* the system log is written out. The *Return* item in the *Customization* section allows return to home web interface of the router.



Figure 2: *Packet Splitter* module's menu

3.1 Global – Configuration of *Packet Splitter's* Connections



Name	Description	Protocol	Mode	IP Address *	Port
Remote Connection 1	server 1	TCP	Server		1000
Remote Connection 2	client 1	TCP	Client	192.168.2.217	2000
Remote Connection 3	udp	UDP	Client	192.168.2.217	3000
Remote Connection 4		TCP	Client		1000
Remote Connection 5		TCP	Client		1000

* can be blank in case of using TCP/UDP server

Figure 3: Connections settings of *Packet Splitter* (menu *Configuration – Global*)

Definition of module's connections can be made in this part – see picture 3.

For the activation of the module, there has to be *Enable Packet Splitter* checked in the upper part of the screen. This and any other change in configuration takes effect after clicking the *Apply* button down the screen.



The *Port 1* (*Port 2*, as the case may be) part is displayed only if circuit board (or boards) of serial expansion port is connected to router's main circuit board. Items in the *Port 1* part have this meanings:

Item	Description
Baudrate	Applied communication speed.
Data Bits	Number of data bits.
Parity	Control parity bit: <ul style="list-style-type: none"> • none – will be sent without parity • even – will be sent with even parity • odd – will be sent with odd parity
Stop Bits	Number of stop bits.
Split Timeout	Time to rupture messages. If the receiver identifies the gap between two characters longer than this parameter in milliseconds, then all of the received data will be compiled and sent in a message.

Table 1: Configuration of the serial port connection (*Port 1* or *Port 2*) – description of items.

In the part *Remote Connections* there's possible to define up to 5 TCP or UDP connections. Next table describes the items for every row:

Item	Description
Description	Description of the connection – optimal name for better orientation in the further settings.
Protocol	It is possible to choose TCP or UDP.
Mode	It is the mode of connected remote device – either Server or Client.
IP Address	It is the IP address of connected remote device. In case of using TCP/UDP server, it can be blank.
Port	Port where the communication runs or will run (has to be unoccupied port).

Table 2: Configuration of the TCP/UDP connections – description of items.

3.2 Targets – Configuration of *Packet Splitter's* Targets

After configuration of connections is done, it is possible to set up their interconnections – or more precisely – to choose one data source and more data targets, where data from the source will be sent (duplicated). Configuration is depicted on the pic. 4.

The *Data Source* item in the upper part of the screen serves for selecting one of connections defined before as the source of duplicated data. There are names of defined connections written out in the list of possible selections. Below can be up to 7 targets set up. 7 places corresponds to 5 TCP/UDP connections

Figure 4: Configuration of *Packet Splitter's* targets (menu *Configuration – Targets*)

Item	Description
Enabled	Activation of sending data from Data Source to this target.
Description	Optional description or name for better orientation.
Target	Selection of data target connection. There are names of defined connections written out in the list of possible selections.

Table 3: Configuration of *Packet Splitter's* targets – description of items.

and maximum of 2 serial connections (if using expansion ports). Again, to apply changes, click on the *Apply* button below.

Next table describes items for every target row:



Note: Some combinations of data source and targets configuration doesn't make sense and won't work. It is important to keep in mind the principles of used protocols (TCP, UDP) – e. g. when UDP used, only UDP server can be configured as data source, not UDP client, etc.

Example of configuration – Duplication of data from serial port to TCP server and TCP client: First, in *Global* section set up serial communication parameters and define 2 connections – TCP server (IP address can be blank, set up the port the server is listening on) and TCP client (set up IP address of TCP client and a port). Second – in *Targets* section set up Port 1 (serial port) as Data Source. Enable two targets and set them to TCP server's and TCP client's connections. Remote TCP server then listens on the port set up at TCP client and remote TCP client has to know IP address of the router, where *Packet Splitter* runs and port of the remote TCP server. Same data from serial port are then received by TCP server and TCP client.

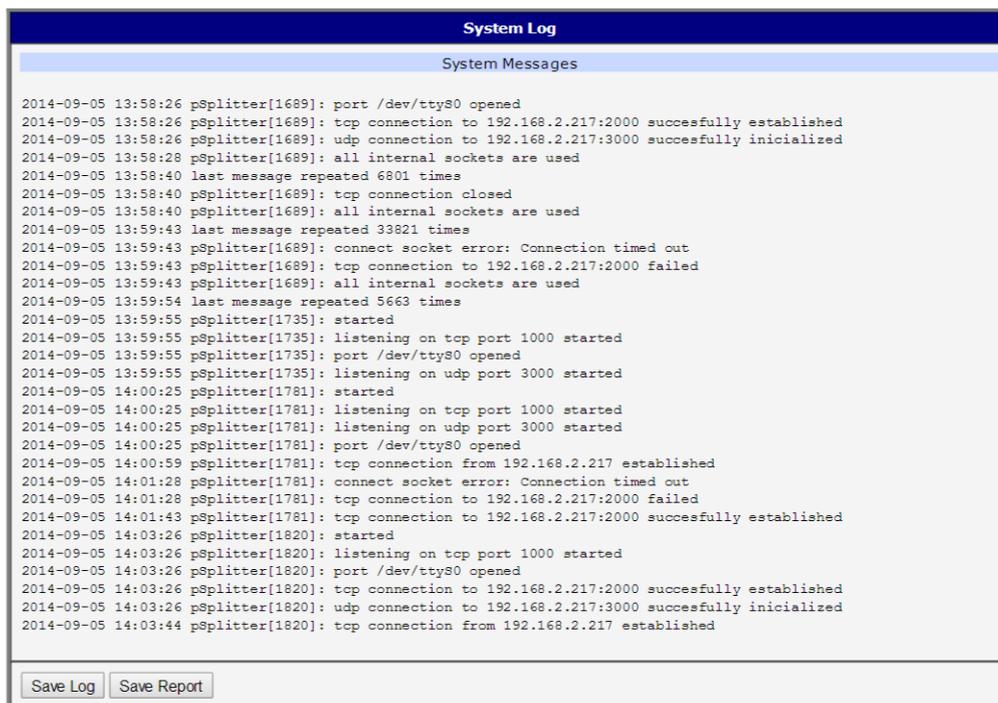


Packet Splitter module behaves "as it is set up" – it means it can send one data twice on one target or it can send data back to source when set up in *Targets* section.



4. System Log

In case of any problems with connection it is possible to view the system log by pressing the *System Log* menu item. There are displayed detailed reports from individual applications running in the router. Activity of *Packet Splitter* module is indicated in rows starting with "pSplitter". *System Log* also displays informations about the successful or unsuccessful connection establishment. Press *Save* button to save the system log to your computer.



```
System Log
System Messages
2014-09-05 13:58:26 pSplitter[1689]: port /dev/tty80 opened
2014-09-05 13:58:26 pSplitter[1689]: tcp connection to 192.168.2.217:2000 successfully established
2014-09-05 13:58:26 pSplitter[1689]: udp connection to 192.168.2.217:3000 successfully initialized
2014-09-05 13:58:28 pSplitter[1689]: all internal sockets are used
2014-09-05 13:58:40 last message repeated 6801 times
2014-09-05 13:58:40 pSplitter[1689]: tcp connection closed
2014-09-05 13:58:40 pSplitter[1689]: all internal sockets are used
2014-09-05 13:59:43 last message repeated 33821 times
2014-09-05 13:59:43 pSplitter[1689]: connect socket error: Connection timed out
2014-09-05 13:59:43 pSplitter[1689]: tcp connection to 192.168.2.217:2000 failed
2014-09-05 13:59:43 pSplitter[1689]: all internal sockets are used
2014-09-05 13:59:54 last message repeated 5663 times
2014-09-05 13:59:55 pSplitter[1735]: started
2014-09-05 13:59:55 pSplitter[1735]: listening on tcp port 1000 started
2014-09-05 13:59:55 pSplitter[1735]: port /dev/tty80 opened
2014-09-05 13:59:55 pSplitter[1735]: listening on udp port 3000 started
2014-09-05 14:00:25 pSplitter[1781]: started
2014-09-05 14:00:25 pSplitter[1781]: listening on tcp port 1000 started
2014-09-05 14:00:25 pSplitter[1781]: listening on udp port 3000 started
2014-09-05 14:00:25 pSplitter[1781]: port /dev/tty80 opened
2014-09-05 14:00:59 pSplitter[1781]: tcp connection from 192.168.2.217 established
2014-09-05 14:01:28 pSplitter[1781]: connect socket error: Connection timed out
2014-09-05 14:01:28 pSplitter[1781]: tcp connection to 192.168.2.217:2000 failed
2014-09-05 14:01:43 pSplitter[1781]: tcp connection to 192.168.2.217:2000 successfully established
2014-09-05 14:03:26 pSplitter[1820]: started
2014-09-05 14:03:26 pSplitter[1820]: listening on tcp port 1000 started
2014-09-05 14:03:26 pSplitter[1820]: port /dev/tty80 opened
2014-09-05 14:03:26 pSplitter[1820]: tcp connection to 192.168.2.217:2000 successfully established
2014-09-05 14:03:26 pSplitter[1820]: udp connection to 192.168.2.217:3000 successfully initialized
2014-09-05 14:03:44 pSplitter[1820]: tcp connection from 192.168.2.217 established
```

Save Log Save Report

Figure 5: System log

5. Related Documents

You can obtain product-related documents on *Engineering Portal* at icr.advantech.cz address.

To get your router's *Quick Start Guide*, *User Manual*, *Configuration Manual*, or *Firmware* go to the [Router Models](#) page, find the required model, and switch to the *Manuals* or *Firmware* tab, respectively.

The *Router Apps* installation packages and manuals are available on the [Router Apps](#) page.

For the *Development Documents*, go to the [DevZone](#) page.