Head-end IP reception

By FPGA 1 to 3 there is a maximum of 31 stream which can be receive simultenaously : 16 MPTS and 15 SPTS.

The 16 MPTS will be splitted into two parts :

MPTS 1 to 8 will go to FPGA 8/10/12

MPTS 9 to 16 will go to 9/11/13

The 15 SPTS will go to FPGA 5/6/7

The following table is an example of input IP streams (for stream 1 to 8)

|  |  |  |
| --- | --- | --- |
| **UDP Stream** | **Address** | **Port** |
| **1** | 239.255.1.1 | 10000 |
| **2** | 239.255.1.2 | 10001 |
| **3** | 239.255.1.3 | 10002 |
| **4** | 239.255.1.4 | 10003 |
| **5** | 239.255.1.5 | 10004 |
| **6** | 239.255.1.6 | 10005 |
| **7** | 239.255.1.7 | 10006 |
| **8** | 239.255.1.8 | 10007 |

To activate the reception from a channel :

***conf\_rx\_udp .udp1 6 @number\_channel[from 1 to 8] "@AddrIP" @UDPPort***

This command should be repeated for each channel that you want to configure.

Moreover, to activate the Multicast reception inside the Stack it is mandatory to send :

***progIGMP .udp1 2 "@AddrIP\_Multicast" @Number\_channel\_IGMP***

***With this command you inform the Stack that the considered @AddrIP\_Multicast should be passed through to upper layers and not discarded.***

***As you could receive up to 31 different stream you could have a maximum of 31 Multicast IP address different so @Number\_channel\_IGMP can take a value from 1 to 31.***

***So a complete UDP configuration can be the following as example :***

|  |  |  |  |
| --- | --- | --- | --- |
| **UDP Stream** | **Address** | **Port** | **Number Channel IGMP** |
| **1** | 239.255.1.1 | 10000 | 1 |
| **2** | 239.255.1.2 | 10001 | 2 |
| **3** | 239.255.1.3 | 10002 | 3 |
| **4** | 239.255.1.4 | 10003 | 4 |
| **5** | 239.255.1.5 | 10004 | 5 |
| **6** | 239.255.1.6 | 10005 | 6 |
| **7** | 239.255.1.7 | 10006 | 7 |
| **8** | 239.255.1.8 | 10007 | 8 |
| **9** | 239.255.1.9 | 10008 | 9 |
| **10** | 239.255.1.10 | 10009 | 10 |
| **11** | 239.255.1.11 | 10010 | 11 |
| **12** | 239.255.1.12 | 10011 | 12 |
| **13** | 239.255.1.13 | 10012 | 13 |
| **14** | 239.255.1.14 | 10013 | 14 |
| **15** | 239.255.1.15 | 10015 | 15 |
| **16** | 239.255.1.16 | 10016 | 16 |

***The following commands to be sent should be the following :***

|  |  |
| --- | --- |
| ***conf\_rx\_udp .udp1 6 1 "239.255.1.X" 100XX*** | ***Activate Stream reception at receiver*** |
| ***progIGMP .udp1 2 "239.255.1.X" X*** | ***Activate Multicast reception inside the UDP/IP Stack*** |

Remarks :

1) If you have several inputs which are on the same multicast address there is no need to associate each IGMP channel to the considered Multicast IP address.

For example, if you want to receive 4 streams with a Multicast address 239.255.1.1 but on different UDP ports, you have to configure only one channel IGMP so send the command ***progIGMP .udp1 2 "239.255.1.1" X*** only one time.

You can of course (it is simple for you) send the command four time to configure the Channel IGMP 1 to 4.

2) This document is for example configuration.

3) The configuration for all IP channel (MPTS or SPTS) is the same. All the commands applied for all channels even if there are not going to the same FPGA.

4) In case of Unicast, there is no need to configure IGMP Channel but only ***conf\_rx\_udp.***

5) All is written in this document will also apply for IP reception of Encoder Project.

Switching Inputs between the remuxes

The command to send are for fpga 1 .

You need to access to the mux\_out :write32bI2C .udp1 5 0 VALUE

where each bit of VALUE is the switch between output 1 to 16bit 0 is switch between stream 1 (default) and 9 (or 1 mxl1 and 1 mxl2); bit 1 is switch between 2 and 10....bit 8 is switch between stream 9 (default) and 16 …

Default is VALUE = 0