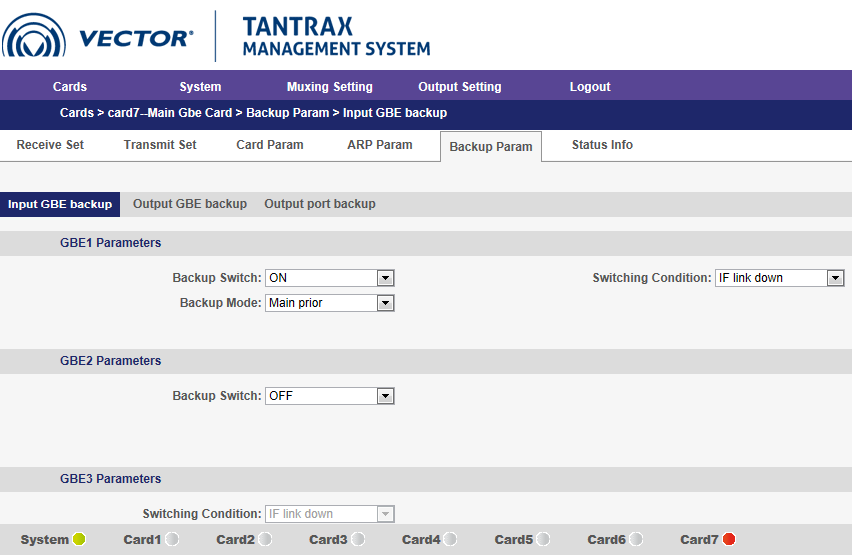
#### Backup setting

##### Input GBE port backup

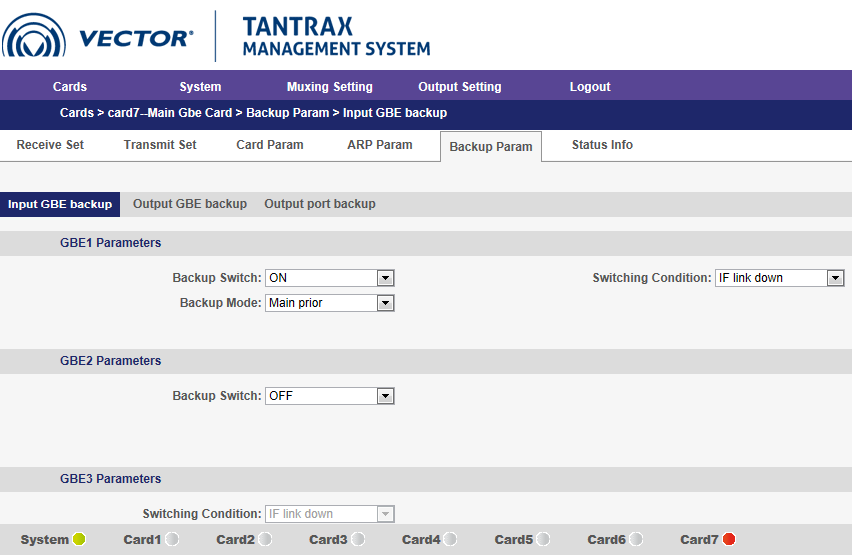
Path: 



Input GBE port backup: GBE port3 is the backup port of GBE port1, GBE port4 is the backup port of GBE port2. On the front panel there have four SFP ports, from left to right be GBE port1 to 4.

When select GBE port backup, normally working with main GBE port for receiving TS stream, if main GBE port abnormal (the conditions are: Ethernet cable disconnect, system bit rate as 0, valid bit rate as 0, input bit rate over the threshold value ), backup GBE port will work instead of main GBE port. If the switch happened, for, output it doesn’t care about the difference of input GBE port, it only check the difference of original TS after MUX or pass-through. So when use input GBE port backup, it should send same TS configure and same port to both main GBE port and backup port. For example: GBE port1 have 10ports, and 3 programs for each port; GBE port3 also have 10ports, and same 3 programs for each port same as GBE port1, when main GBE port1 has problem it will switch to backup GBE port3, and for output result is same.

**Input GBE port backup:** first open backup switch, open GBE port1 backup switch, then it will allow GBE port1 and GBE port3 as main and backup port; open GBE port2 backup switch, then it will allow GBE port2 and GBE port4 as main and backup port; after open the backup switch and the new parameter configure page will open and shown as follow:



Open the backup switch under GBE port1, then it will show you the switch parameter of GBE port3. The switch parameters are backup mode or switch condition.

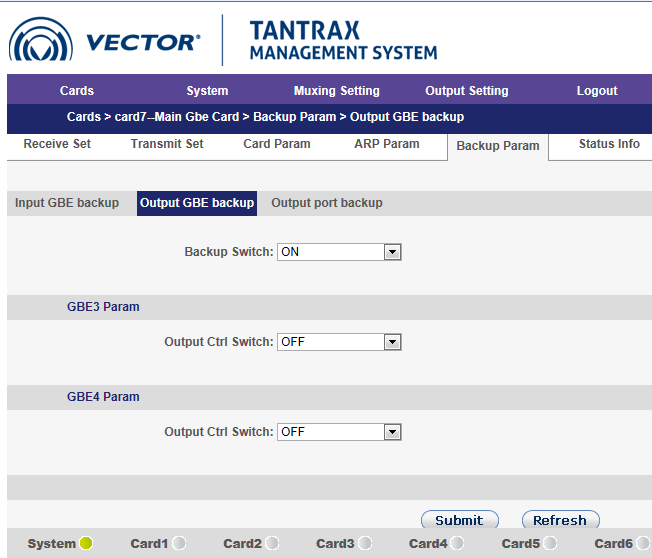
Backup mode: main port priority (if main port do not have problem, it always work with main port), same priority level for both main and backup port(when one port abnormal and will switch to another port which work normal), not switch back(only can switch from main port to backup port), fix on main port, fix on backup port.

Switch condition: Ethernet cable disconnect, input system bit rate as 0, input valid bit rate as 0, input bit rate over the threshold value. When you select input bit rate over the threshold value, it will add max and min threshold bit rate parameter option ,  , main and backup GBE port both need set this parameter.

After finish the parameter setting, it will has some change on the GBE card web control page, receiving setting page will add the parameter of GBE3 and GBE4. Backup port receiving parameter can set freely, but the port quantity and port number should same as GBE1, when add or delete ports on main GBE port or backup GBE port, it will cause some change on another GBE port. Besides, when main GBE port working, the status information will show the receiving information of GBE1 and GBE2, after switch to backup port, it will show all informations of GBE3 and GBE4, the same as MUX page of web control.

##### Output GBE port backup

Path：



Output GBE port backup: GBE port3 is the backup port of GBE port1, GBE port4 is the backup port of GBE port2. On the front panel there have four SFP port, from left to right is GBE port1 to 4.

If open output GBE port backup, then backup GBE port and main GBE port send same TS. It means the output GBE port just copy the original TS to two same TS and used for backup.

**Use output GBE port backup:** open the backup switch of output GBE port, then it will pop up the output switch of GBE1 and GBE2,  it used for the control of GBE output port, if turn off, then the backup GBE port will not sending stream. Same thing, after open the backup switch, transmit setting  page will add the transmit parameter setting option of GBE3 and GBE4, backup GBE port only can set destination IP, destination port and alarm switch. Backup GBE port quantity and port number should same as the main GBE port, if add or delete port from one port, it will have change on another port.

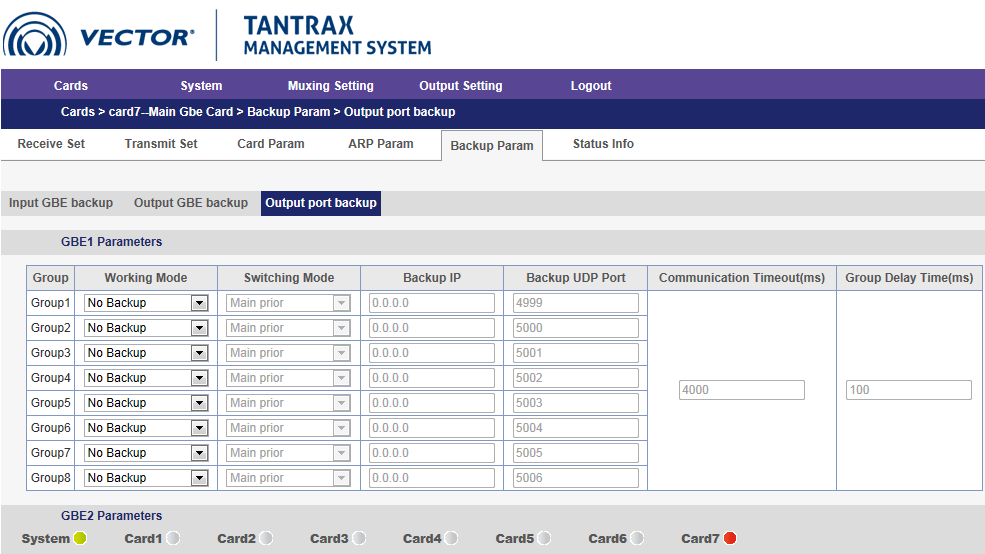
After add one port, the destination IP and port are same for both main and backup GBE port, it need modify from main GBE port or backup port after added.



**note :** after open output GBE port backup, cannot find output status information of backup GBE port, also cannot find output port of backup GBE port from MUX page, the output status information can reference the main GBE port, and the main and backup GBE port are same.

##### Output port backup

Path ：



Output port backup is another level and more detail backup.

**Use the output port backup:** first of all, the two backup port must be come from different 2 GBE ports, in addition, ports need in the same local area network (LAN) to ensure smooth communication between different ports, then in this page of the parameters setting, two backup ports must be one main device, one as the backup device, the group number make the same, the backup ip should be fill in another main device IP, backup UDP ports make the same, switching mode must be setting in the main device, then after set up the backup parameters of the page ,in the send pageall ports increased 3 parameters that can be used,It be need the port group number of the backup select for the opened backup group in the backup setting page. Fill in the MIN and MAX bit rate threshold value

Output port backup network should pay attention to the following:

1. If the main stream is the IGMP V3 mode, and setting the source for IP filtering, so the backup device also must be IGMP V3, and setting the source IP filter and the main stream remain the same.
2. Network Settings, the main stream and the backup stream ports number must be the same.
3. The destination ip ,port of main stream and backup stream must be same
4. The port with main switch function of the network, when it uses the output port as backup, it must open the main port switch. The mean is the port main switch and backup function mutually exclusive, when the port main switch is close ,it can’t select the backup mode, when select the backup mode, it can’t close the port main switch

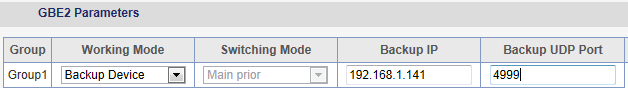
Using some typical examples of the port backup, between the GBE1 and GBE2 use two port 1:

1. Select a group number (up to 32 port backup in each group), such as group 1, choose GBE1 as the main device



Select the switch mode，backup ip fill in ip of the GBE2，backup port number default。

1. GBE2 group 1 setting to backup device



Switching mode can’t be set, just like the main device, backup ip fill GBE1 ip,backup UDP ports number with the main device setting are same.

1. After the above two steps, the backup parameters has been set up, then switch to the send setting page, open the GBE1 page, find the port 1 parameters of the following.



The backup number chooses has just set up the group 1, fill in the MIN and MAX bit rate threshold value, the GBE 2 has been set up, the two port destination ip and destination number point to the same port to finish the backup setting.

4) If backup relationship setting is wrong, there will have alarm”backup ip unreachable”. When the backup relationship set up correctly, main device port and backup device port according to the switch condition and switch mode to switching.

**Communication time out:** when this parameter is for setting large number ports backup and too many group ,this time the communication between ports may need a long time, it can set the time to a large data accordingly, in order to avoid port can't normal backup, it be always think the backup port unreachable.

**Delay time within the group:** after set the port backup, the time interval of the group communication,set this value to avoid frequent communication between the main and backup port, due to network congestion.



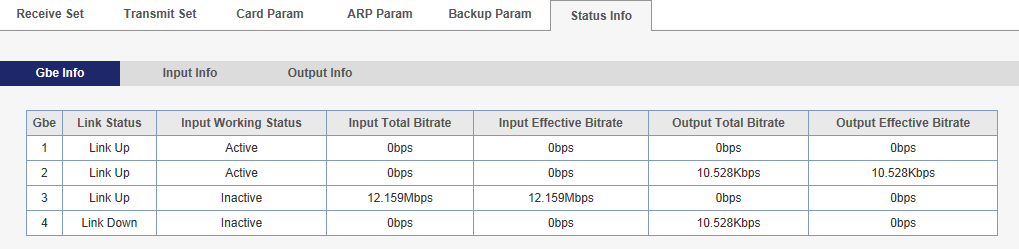
Note: if can’t backup, please check the following: 1.the main and backup device communication ip is the port ip for each other; 2.the main and backup device UDP port should be the same; 3.the two port should can be PING, and can make communication; 4.the send page setup the port group number parameters must be corresponds; 5. the setting output switch is open, main and backup destination ip and port number must be make the same.

**The version upgrade and page modify record (use the Bold and screenshots contrast)**

#### Status information

Open the main GBE card setting page, there have some different setting page, default page is the status information page of the main GBE card:

GBE information：



Status information of the main GBE card include 4 GBE port current state、input information 、output information、it be display use 3 pages . input information and output information be divided into GBE1 and GBE2 information。

**GBE information**：shows 4 GBE ports real-time status of the main GBE card。

connection status shows whether the port connect the cable(as long as insert the SFP ,even the cable not be connected ,also display connection)；

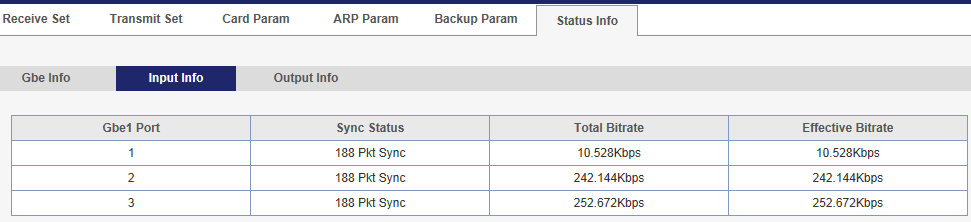
status of the interface type,at presend the main GBE card only used the SFP；

GBE input status,Active show the active state,inaction show closed state,under the input backup states,can indicate the current work on the main stream or backup stream；

Under this port, sum of the total bitrate of input system bitrate；

Under this port,sum of the total valid bitrate of the input port 。

Input information：



**Input information**：show all ports information under the GBE1、GBE2 page。

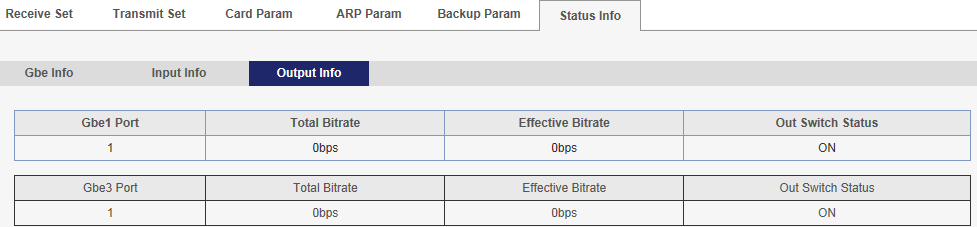
Show the port number，the page frist list all port of the GBE1,then list all ports of the GBE2。

Input package status,188 packets synchronization、204 packets synchronization and unsynchronous three states,can indicate whether this port is in the receiving sysnchronization state.

Input system bitrate，statistical the port system bitrate of the receiving。

Input valid bitrate，staistical the port valid bitrate of the receiving。

Output information：



**Output information**：show all ports information under the GBE1、GBE2 page, only have output system bitrate and valid bitrate of two parameters。

port number，the page frist list all port of the GBE1,then list all ports of the GBE2。

output system bitrate，it is under the “send setting”page can be set parameters,output system bitrate of the port。

output valid bitrate，output valid bitrateof the port。



Note:if the user remain the status information page,does not operate,the page will refresh automatically with 10s. all port of the main GBE card and port infomatin ,connection and synchronization state,can be find in this page.