



3080IPX

Module 2

Evertz Parts - IPX

3080IPX-16 → 16 x 1/10GE ports

Maximum Throughput

Uncompressed 16x 32 SD-SDI = 512 x 512 signals

6 HD-SDI = 96 x 96

3 3G = 48 x 48

Compressed 16 x 66 J2K = 1056 x 1056

Power: 60W



Evertz Parts - IPX

3080IPX-32 → 32 x 1/10GE ports

Maximum Throughput

Uncompressed 32x 32 SD = 1024 x 1024 signals

6 HD = 192 x 192

3 3G = 96 x 96

Compressed 32 x 66 J2K = 2112 x 2112

** Theoretical value, actual maximum of the 3080IPX is 2048 signals*

Power: 80W



Evertz Parts - IPX

3080IPX-64 → 64 x 1/10GE ports

Maximum Throughput

Uncompressed 64x 32 SD = 2048 x 2048 signals

6 HD = 384 x 384

3 3G = 192 x 192

Compressed 64 x 66 J2K = 4224 x 4224

** Theoretical value, actual maximum of the 3080IPX is 2048 signals*

Power: 120W



Evertz Parts – IPX 25G

3080IPX-25G → 128 x 1/10/25GE ports

Maximum Throughput

Uncompressed 128 ports x 16 HD = 2048 x 2048 signals

8 3G = 1024 x 1024 signals

Compressed 128 ports x 62 J2K = 7936 x 7936

*this value calculated at max bandwidth of J2K i.e. 400Mbps



IPX

- The 3080IPX 10G series is built with 1G/10G ports and offers sizes of 16, 32 and 64 port options in 160Gb/s, 320Gb/s and 640Gb/s bandwidth configurations.
- The 3080IPX 25G series is built with 1G/10/25G ports with a total of 128 ports up to 3.2Tb of bandwidth
- The 3080IPX receives all the SNMP controls from the Frame Controller through the card
- The Frame Controller acts like a dumb switch to the 3080IPX.



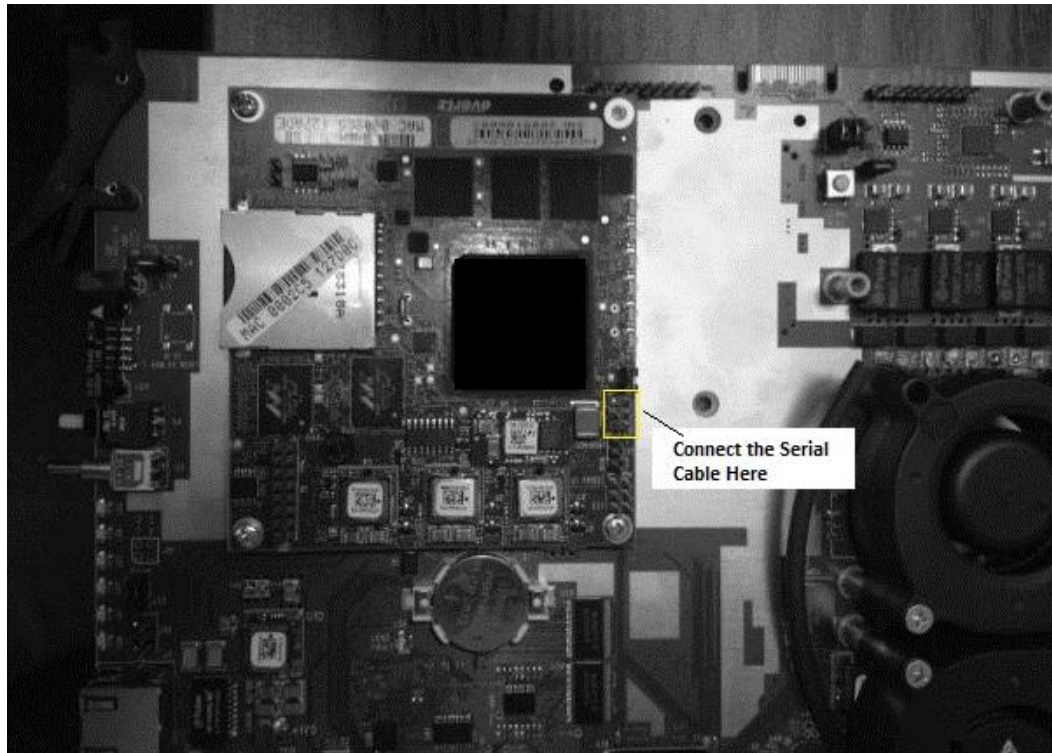
Frame Styles

- There are a number of frame options depending on the size of IPX being used:
 - EMX1-FR: 1 RU can hold either the IPX-16 or IPX-32
 - EMX3-FR: 3 RU can hold any of the IPX-16, IPX-32 or IPX-64
 - EMX6-FR: 6 RU can hold any of the IPX-16, IPX-32 or IPX-64
 - Ev6-FR: 6RU can hold the IPX-128



Setting Up the IPX

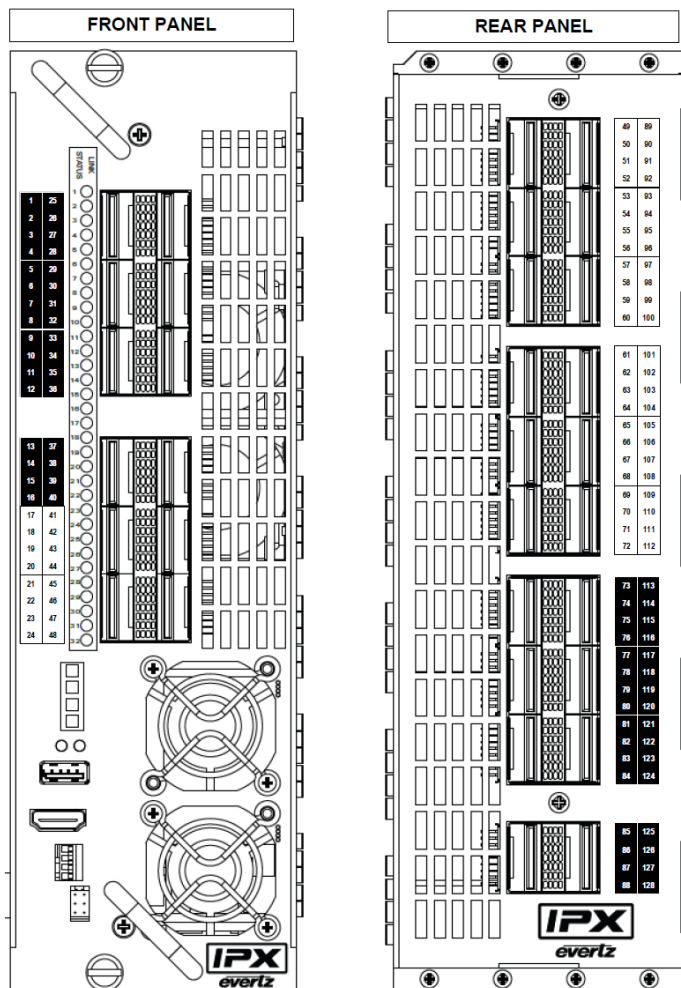
- Connect the serial cable to the serial port of the IPX and login to the serial menu
- Configure the desired network settings for the device



- Reboot the module
- Connect a Cat5 cable from the port labeled 1B on the frame to the Control Network to pass control data

Port Allocation IPX-128

- 3080IPX-128-25G ports can be configured to support port speeds of 1G, 10G, 25G and 100G (4x 25G):

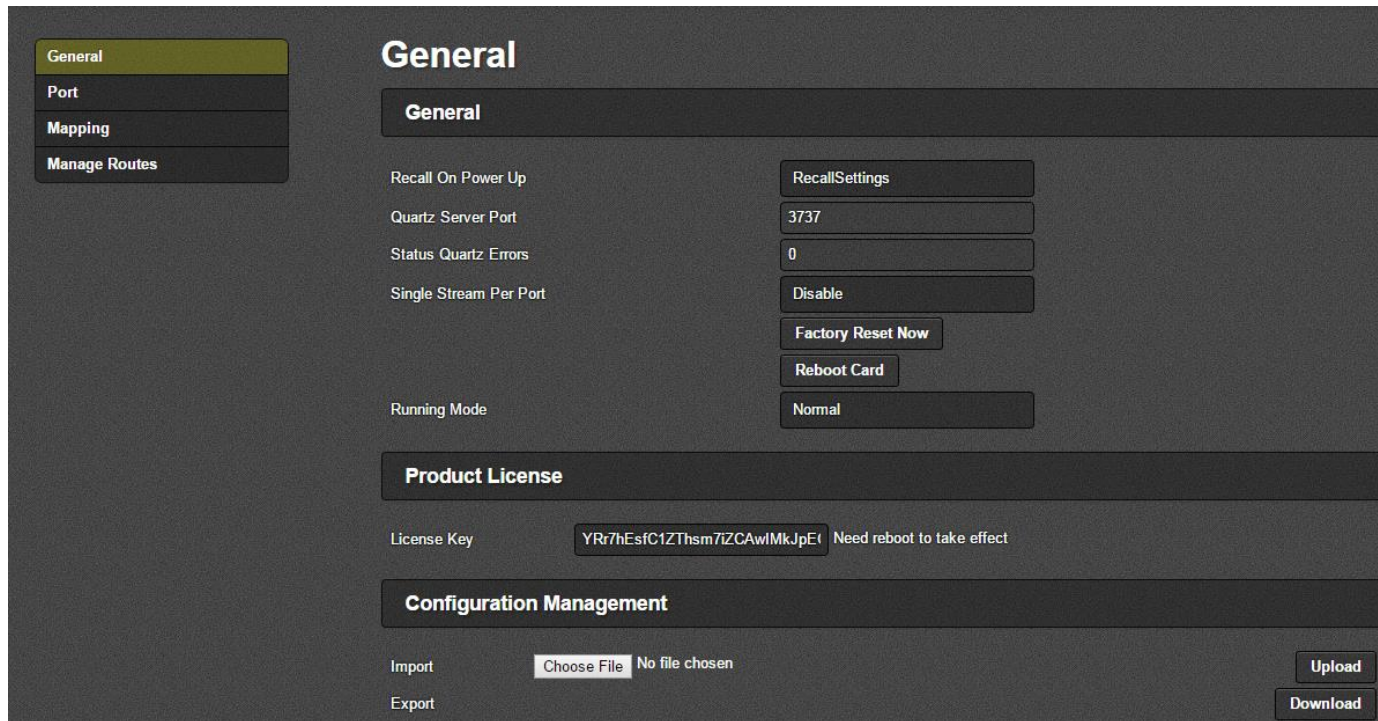


- Assign individual 25G ports to those ports numbered with white text on black background: 1-16, 25-40, 73-88, 113-128
- Assign 1G/10G/100G ports to those ports numbered with black text on white background: 17-24, 41-48, 49-72, 89-112
- Additional 1G/10G/100G ports can be assigned to any remaining ports from the port group defined in Step 1.
- Individual 25G ports **cannot** be assigned to the port group defined in step 2: 17-24, 41-48, 49-72, 89-112



IPX Web Interface - General

- Key Feature of the General page is the Configuration Management tool
- It allows the user to import or export a configuration file for the IPX.



The screenshot displays the 'General' configuration page of the IPX web interface. On the left, a sidebar contains a menu with 'General' (highlighted), 'Port', 'Mapping', and 'Manage Routes'. The main content area is titled 'General' and includes several configuration sections. The 'General' section contains fields for 'Recall On Power Up' (with a 'RecallSettings' button), 'Quartz Server Port' (3737), 'Status Quartz Errors' (0), 'Single Stream Per Port' (Disable), 'Factory Reset Now' (button), 'Reboot Card' (button), and 'Running Mode' (Normal). Below this is the 'Product License' section, showing a 'License Key' (YR7hEsfC1ZThsm7IZCAwIMkJPET) and a note 'Need reboot to take effect'. The 'Configuration Management' section at the bottom features 'Import' and 'Export' buttons, a 'Choose File' button, a 'No file chosen' status, and 'Upload' and 'Download' buttons.

General	
Recall On Power Up	<button>RecallSettings</button>
Quartz Server Port	3737
Status Quartz Errors	0
Single Stream Per Port	Disable
	<button>Factory Reset Now</button>
	<button>Reboot Card</button>
Running Mode	Normal

Product License	
License Key	YR7hEsfC1ZThsm7IZCAwIMkJPET
Need reboot to take effect	

Configuration Management	
Import	<button>Choose File</button> No file chosen
Export	
	<button>Upload</button>
	<button>Download</button>

IPX Web Interface – Port Control

- This page is designed for troubleshooting
- Can check details such as port operation and transmit/received bandwidths
- Ports must be enabled as they are needed
- Port speed is essential to the port status negotiation and must be set to match the type of SFP being used

General
Port
Mapping
Manage Routes

Port

Global

Count: 32
Clear Port Statistics
Display Port Errors: Disable

Ports

Port	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
------	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

Port Config

Speed: 1000 Mbps
Operation: Up
Jumbo Frame: Disable

Contribution Port Config

Name: Contrib 1
IP Address: 0.0.0.0
IP Subnet Mask: 0.0.0.0

Port Status

Description: 10G1G SFP+ Port (eth0)
Speed: 1000 Mbps
Operation: Down
SFP Power Level: -99 dBm
Input Unicast Packets: 0
Input MultiCast Packets: 0
Inbound Packets With Errors: 0
Output Unicast Packets: 0
Output MultiCast Packets: 0
Outbound Packets Discarded: 0
MTU: 1518

Port Error Status
Port Bandwidth Status

Bandwidth Received: 0 Kbps
Bandwidth Transmitted: 0 Kbps



IPX-25G Port Transceiver Config

- Part of the Port page that exists uniquely for the IPX-128 is the Transceiver configuration
 - This will display all of the power levels and other important values on each lane of the QSFP

Transceiver Config

TypeOptical

Transceiver Status

Description

TypeQSFP

VendorEVERTZ

PartQSFP25G-A

Serial NumberCRPR173900K5S

Rev01

Phy Status

10 records per page

Search:

Lane	Temperature (Celsius)	Voltage (Volts)	TX Bias Current (mA)	TX Power Level (dBm)	RX Power Level (dBm)
1	37.4	3.27	34.40	-4.50	-3.60
2	37.4	3.27	34.40	-2.67	-3.55
3	37.4	3.27	32.80	-3.12	-3.38
4	37.4	3.27	32.80	-2.52	-4.32



IPX-10G Web Interface - SFP

- The SFP page will allow the user to setup monitoring parameters for the SFP's as well as view the actual parameter values of each SFP

The screenshot displays the 'SFP Monitoring' and 'SFP Config' sections of the IPX-10G web interface. The 'SFP Monitoring' section features a port selection grid with ports 1 through 32, where port 1 is currently selected. Below this, the 'SFP Config' section allows for the configuration of various SFP parameters. The 'SFP Status' section provides real-time monitoring data for the selected SFP.

SFP Monitoring	
Port	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 27 28 29 30 31 32

SFP Config	
SFP Rx Power Level High Alarm Threshold	3.40 dBm
SFP Rx Power Level Low Alarm Threshold	-18.39 dBm
SFP Tx Power Level High Alarm Threshold	3.40 dBm
SFP Tx Power Level Low Alarm Threshold	-12.20 dBm
SFP Voltage High Alarm Threshold	3.60 Volts
SFP Voltage Low Alarm Threshold	3.00 Volts
SFP Temperature High Alarm Threshold	75 Celsius
SFP PHY Control	Auto

SFP Status	
SFP Speed Match	Match
SFP Part Number	SFP10G-TR13-A
SFP Connector	LC
SFP Rx Power Level	-98.00 dBm
SFP Tx Power Level	-1.40 dBm
SFP Temperature	33.6 Celsius
SFP Voltage	3.28 Volts

This inset shows the 'Global' configuration page for SFPs. It contains sliders for setting global alarm thresholds for Rx/Tx power levels, voltage, and temperature, as well as a checkbox to enable global SFP thresholds.

Global	
Global SFP Rx Power Level High Alarm Threshold	3.40 dBm
Global SFP Rx Power Level Low Alarm Threshold	-18.39 dBm
Global SFP Tx Power Level High Alarm Threshold	3.40 dBm
Global SFP Tx Power Level Low Alarm Threshold	-12.20 dBm
Global SFP Voltage High Alarm Threshold	3.60 Volts
Global SFP Voltage Low Alarm Threshold	3.00 Volts
Global SFP Temperature High Alarm Threshold	75 Celsius
Enable Global SFP Threshold	Enable



IPX Web Interface – Source Mapping and Routes

- The X-Y Area is where to route a source towards a destination through a cell cross-point selection. It has the sources (Multicast) listed down the left hand and the destinations (physical Ethernet port) listed across the top of the panel.

Source Mapping & Routes

Routes

Crosspoints

Grid Management

Source	Label	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	239.0.0.15 [3]																								
2	239.0.0.15 [3]																								
3	239.0.0.15 [3]																								
4	239.0.0.15 [3]																								
5	239.0.0.15 [3]																								
6	239.0.0.15 [3]																								
7	239.0.0.15 [3]																								
8	239.0.0.15 [3]																								
9	239.0.0.15 [3]																								
10	239.0.0.15 [3]																								
11	239.0.0.15 [3]																								
12	239.0.0.15 [3]																								
13	239.0.0.15 [3]																								
14	239.0.0.15 [3]																								
15	239.0.0.15 [3]																								
16	239.0.0.15 [3]																								
17																									
18																									
19																									
20																									
21																									
22																									
23																									
24																									
25																									
26																									
27																									
28																									
29																									
30																									

Display Range Refresh

Source 1

Output Port 1

Search Find

Source

To Perform Apply

Route Un-Route State-Type

Source Output Port

- Number in square brackets is the SFP port number its connected to, the number along the input column is the multicast source number, these 2 values are unrelated



IPX Web Interface - Mapping

- **Input:** This field displays the index number of each new source entry in the table.
- **Multicast Address:** This control allows the user to set the multicast IP address of each new source entry in the table.
- **Contribution Port:** This control allows the user to set the contribution port associated to each new source entry in the table.
- **Filter Mode:** This control allows the user to set the filter mode to either the INCLUDE or EXCLUDE option. INCLUDE mode is necessary for IGMP v3 requests.
- **SSM Sources:** This control allows the user to set the Source Specific Multicast (SSM), or the Source IP of the sender, that the source multicast stream will be requested from using IGMP.
- **Ingress VLAN:** This control allows the user to set the VLAN of the incoming source multicast stream.
- **Egress VLAN:** This control allows the user to set the VLAN of the outgoing source multicast stream. Upon setting the egress VLAN, the multicast stream is tagged when routed to an egress port (i.e. leaving the 3080IPX).

The screenshot shows the 'Sources' configuration page in the IPX web interface. On the left is a sidebar menu with options: General, Port, Mapping (highlighted), Manage Routes, Unicast Control, Source Discovery, and Notify. The main area is titled 'Sources' and features a tabbed interface with tabs numbered 1 through 7; tab 1 is selected. A 'goto tab' button is located to the right of the tabs. Below the tabs, the configuration for 'Source 1' is displayed. The fields include: MultiCast Address (239.0.0.1), Name (abc), Contribution Port (Contrib3), Filter Mode (Exclude), Ssm Sources (192.168.192.168), Ingress Vlan (1, with a range of 0 to 4094), Egress Vlan (0, with a range of 0 to 4094), Enable Monitor (False), Source Status (Disabled), Monitor State (Disabled), Bandwidth Detected (0 Kbps), and Bytes Dropped (0).

Source						
1	2	3	4	5	6	7
goto tab						
Source 1						
MultiCast Address: 239.0.0.1						
Name: abc						
Contribution Port: Contrib3						
Filter Mode: Exclude						
Ssm Sources: 192.168.192.168						
Ingress Vlan: 1 (0 to 4094)						
Egress Vlan: 0 (0 to 4094)						
Enable Monitor: False						
Source Status: Disabled						
Monitor State: Disabled						
Bandwidth Detected: 0 Kbps						
Bytes Dropped: 0						



IPX Web Interface – Unicast Control

- **Operation:** This control allows the user to enable or disable the L2 unicast forwarding feature.
- **Status:** This field displays the current state of the unicast control feature.
- **Merge Filter Lists:** This control allows the user to merge IP filter list of the unicast control upstream port.
- **Full Mesh Switch:** This control allows the user to enable or disable “Full Mesh Switch” feature, i.e., allowing the L2 communication between any two ports belonging to the L2 pool (Access or Trunk port)

Port	Type	Vlan (0 to 4094)	Policer Rate (0 to 2147483647 Kbps)
Port 1	Access	0	0
Port 2	None	0	0
Port 3	None	0	0
Port 4	None	0	0
Port 5	Trunk	0	0
Port 6	None	0	0
Port 7	None	0	0
Port 8	None	0	0
Port 9	None	0	0
Port 10	None	0	0
Port 11	None	0	0
Port 12	None	0	0
Port 13	None	0	0
Port 14	Trunk	0	0



IPX Web Interface - Source Discovery

- the Source Discovery feature enables the 3080IPX to automatically discover all the multicast sources present at each port
- After discovering the sources, the user can selectively add each one to the mapping table as a new source
- This feature is available with the license key: +SCR

evertz 3080IPX-32-G3 Refresh Apply Dynamic Apply Upgrade Logout

Source Discovery

Detected Source

Port

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
23	24	25	26	27	28	29	30	31	32												

Source Discovery

1-30	31-60	61-90	91-120	121-150	151-180	181-210	goto tab
------	-------	-------	--------	---------	---------	---------	----------

	MultiCast IP	Source IP	Vlan (0 to 4094)	Mapping	Add
Source Discovery 1	235.0.0.1	172.17.43.5	0	Present	Add
Source Discovery 2	236.0.0.1	172.17.43.5	0	Absent	Add
Source Discovery 3	237.0.0.1	172.17.43.5	0	Absent	Add
Source Discovery 4	238.0.0.1	172.17.43.5	0	Absent	Add
Source Discovery 5	238.10.150.2	172.17.43.5	0	Absent	Add
Source Discovery 6			0	Absent	Add
Source Discovery 7			0	Absent	Add





Upgrade Procedure

- Upgrades are typically performed through the web interface
 - Select the desired firmware version followed by the *Upgrade* button
 - Do not refresh the page or reboot the card while the firmware push is in progress.
 - When the upgrade is complete the card will reboot automatically

Firmware Upgrade

Upgrade

Firmware Upgrade

Name	Current Version	Progress
3080IPX-32-10G	3.0 build 379	<div></div>

Firmware

Choose File

No file chosen

Upgrade

