



HIRSCHMANN

A **BELDEN** BRAND

User Manual

Basic Configuration

Dragon PTN Bandwidth Overview



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1. INTRODUCTION

1.1 General

This document is valid as of Dragon PTN Release 4.0DR.

This document shows the bandwidth information for a specific interface module. It means the following, and this per Interface Module:

- ▶ **Maximum Front Bandwidth:** The maximum bandwidth that an application can [inject into/extract from] the Interface Module via its front panel;
- ▶ **Maximum Back End (=Network) Bandwidth (or slot speed):** The maximum bandwidth that the Interface Module can [inject into/extract from] the Dragon PTN network via the CSM and node backplane. This bandwidth depends on the following:
 - ▶ The used node type;
 - ▶ The used CSM type in the node;
 - ▶ The used Interface Module slot in the node in which the Interface Module has been plugged;

1.2 Manual References

Table 1 is an overview of the manuals referred to in this manual. All these manuals can be found in the HiProvision (=Dragon PTN Management System) Help function.

Table 1 Manual References

Ref.	Manual	Title
[1]	UM_BasicConfig_Dragon-PTN_and_HiProvision-Operation_Rel_4-0DR_1019_en.pdf	Dragon PTN and HiProvision Operation
[2]	IG_Dragon-PTN_Installation-and-Operation_02_1019_en.pdf	Dragon PTN Installation and Operation
[3]	IG_Dragon-PTN_Nodes_02_1019_en.pdf	Dragon PTN Aggregation Nodes: PTN2210, PTN2206, PTN1104, PTN2209
[4]	IG_Dragon-PTN_PTNC-SM310-A_02_1019_en.pdf	Dragon PTN Central Switching Module: PTN-CSM310-A
[5]	IG_Dragon-PTN_General-Specifications_01_1019_en.pdf	Dragon PTN General Specifications

2. INTERFACE MODULE SLOTS

All peripherals are connected to the Dragon PTN Network via Interface Modules, which are available for a wide range of applications in the areas of data and LAN.

Each Interface Module has its own manual, which can be found on the Portal <https://hiprovision.hirschmann.com> via Shortcuts → Manuals.

Different Dragon PTN node types are available to provide a minimum of 4 Interface Module slots up to a maximum of 10 Interface Module slots:

- ▶ Node PTN1104: 4 Interface Module slots;
- ▶ Node PTN2206: 6 Interface Module slots;
- ▶ Node PTN2209: 9 Interface Module slots;

- ▶ Node PTN2210: 10 Interface Module slots;

Different Interface Module slot speeds are available per node type. A slot speed is the maximum bandwidth that an Interface Module can [inject into/extract from] the Dragon PTN network via that slot. The slot speed is the result of backplane lines or back end ports that terminate in this slot.

Table 2 Available Interface Module Slot Speeds per Node Type

Interface Module Slot Speed (G = Gbps)	PTN1104	PTN2206	PTN2209	PTN2210
X = Available; --- = Not Available;				
1G	X	X	X	X
3G (=3x1G)	---	---	X	X
4G (=4x1G)	X	X	X	X
10G	---	X	X	X
14G (= 4x1G + 10G)	---	---	X (*)	---
(*) : optimized for L3 Interface Modules				

Each individual Interface Module slot provides a mix of these speeds. In the figures below, find which speeds are available per Interface Module slot per node type. The slot speed that is finally used depends on the Interface Module that has been plugged in into that slot.

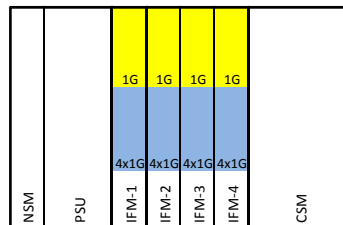


Figure 1 PTN1104: Node Slot Speeds

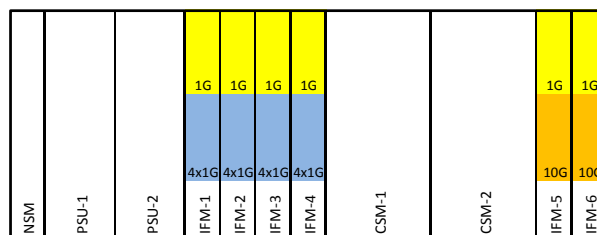


Figure 2 PTN2206: Node Slot Speeds

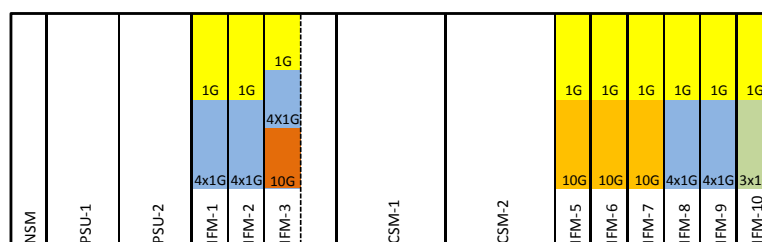


Figure 3 PTN2209: Node Slot Speeds (10G in Interface Module-3 only for PTN-9-L3A-L)

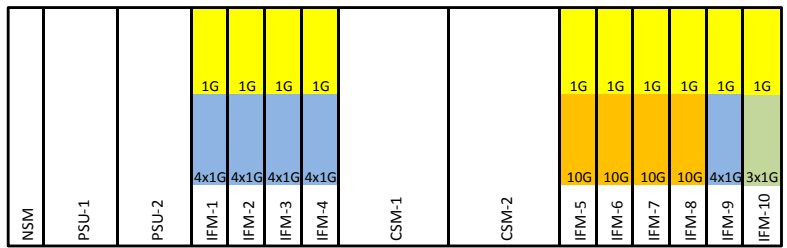


Figure 4 PTN2210: Node Slot Speeds

For the correct programming of the Interface Modules, see the module manuals and HiProvision.

3. MAPPING/ INTERFACE MODULE FRONT FRONT ↔ INTERFACE MODULE BACK END PORTS

The table and figures below show how the Interface Module front ports are mapped to the Interface Module back end ports towards the CSM.

Interface Module Type	Mapping Front Ports ↔ Back End Ports
Low Bandwidth	<p>Diagram illustrating the mapping for Low Bandwidth modules: multiple front ports are connected to a single back end port.</p>
Ethernet LAN/WAN	<p>Diagram illustrating the mapping for Ethernet LAN/WAN modules: front ports are connected to back end ports in a one-to-one configuration.</p>
Ethernet Advanced L2 Ethernet L3	<p>Diagram illustrating the mapping for Ethernet Advanced L2 and Ethernet L3 modules: front ports are connected to a central switch (X), which is then connected to back end ports.</p>

Note: the amount of back end ports (and speed) depends on the used Interface Module, CSM type, node type and slot position in which the Interface Module has been plugged. These values can be found in the previous tables.

5. WEEE GUIDELINES

The Dragon PTN nodes are compliant with the European guidelines 2002/96/EG (WEEE = Waste of Electrical and Electronic Equipment). This compliancy is indicated at the back of the node by a crossed-bin symbol in Figure 5.



Figure 5 Crossed-Bin Symbol

The equipment that you bought required the extraction and use of natural resources for its production. It may contain substances that are hazardous to human health and the environment.

In order to avoid the dissemination of those substances in our environment and to reduce the pressure on the natural resources, we encourage you to use the appropriate take-back systems. These systems will reuse or recycle most of the materials of your end-of-life equipment in a sound way.

The crossed-bin symbol invites you to use those systems.

If you need more information on the collection, reuse and recycling systems, please contact your local or regional waste administration. You can also contact us for more information on the environmental performances of our product.

6. ABBREVIATIONS

CSM	Central Switching Module
EMC	Electromagnetic Compatibility
EMI	Electromagnetic Interference
IEEE	Institute of Electrical and Electronics Engineers
LAN	Local Area Network
MPLS-TP	Multiprotocol Label Switching – Transport Profile
MTBF	Mean Time Between Failures
NSM	Node Support Module
PTN	Packet Transport Network
SHDSL	Symmetrical High Bitrate Digital Subscriber Line
U	Rack Unit
WAN	Wide Area Network
WEEE	Waste of Electrical and Electronic Equipment