XAARHPC 1000

PRODUCT GUIDE

Overview

The Xaar Head Personality Card 1000 (Xaar HPC 1000) provides optimal and dependable data communication between a Xaar Nitrox or Xaar 1003 printhead and the remainder of the digital inkjet print management chain.

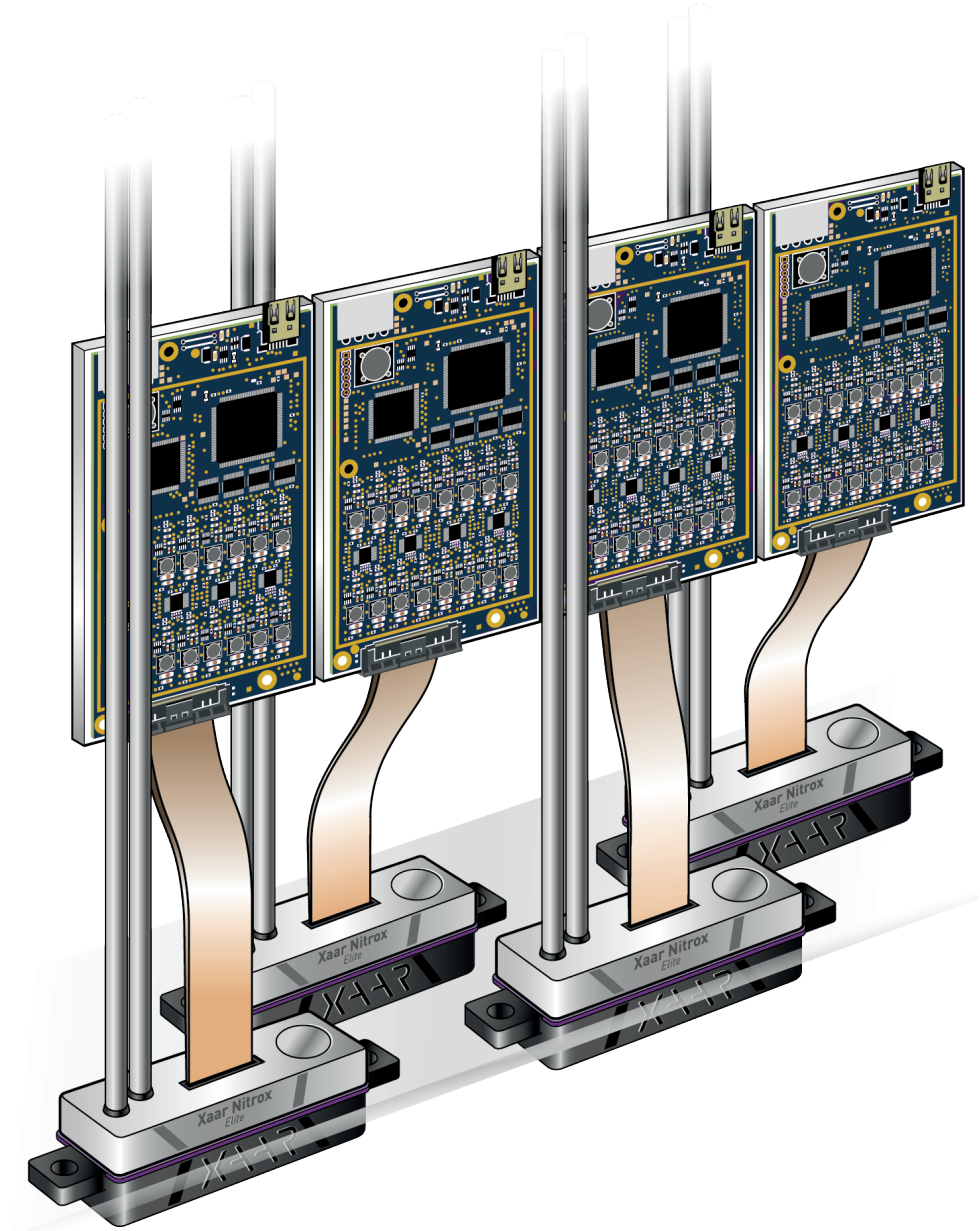
This proven solution significantly reduces costs and risks faced by Original Equipment Manufacturers (OEMs) developing bespoke printing systems with consequential improvement in the time-to-market.

The Xaar HPC 1000 is extremely mechanically robust and reliable. The Molex connector ensures precise alignment with the Xaar printhead and the inherent locking mechanism prevents accidental disconnection.

XAAR HPC 1000

The narrow form factor (width) allows for flexibility in the design of the print bar. The Xaar HPC 1000 can be located directly above the printhead and accessed via the printhead aperture which means that maintenance is easy.

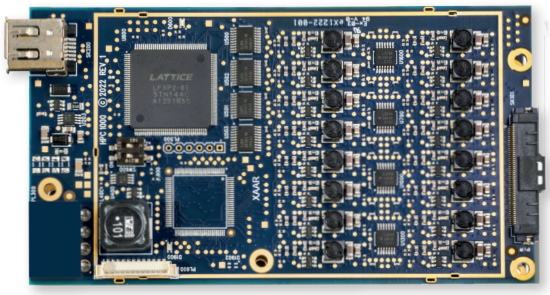
A bi-coloured diagnostic LED provides an immediate indication of system, print and power status.



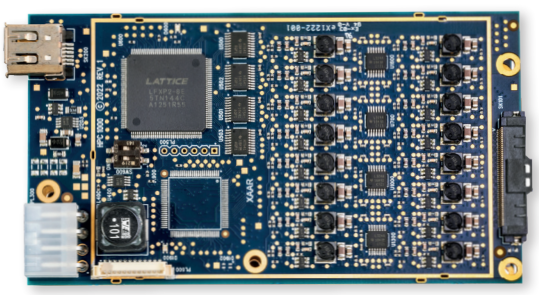
The Xaar HPC 1000 is available in 2 versions; the Xaar HPC 1000 (below) and Xaar HPC 1000 HV (below right).

The Xaar HPC 1000 supports the Xaar 1003 GS6 printhead, whilst the HPC 1000 HV, when combined with an external power supply, can be used with all variants of the Xaar Nitrox and Xaar 1003 printheads.

The Xaar HPC 1000 is part of Xaar's range of systems components, which includes the XPM and Xaar's Hydra. The range is designed to optimise the performance of the Xaar printheads; they are also easy to configure and integrate, reducing time-to-market.



PART NAME: XAAR HPC 1000
PART NUMBER: XP55500053



PART NAME: XAAR HPC 1000 HV
PART NUMBER: XP55500052

XAAR HPC 1000

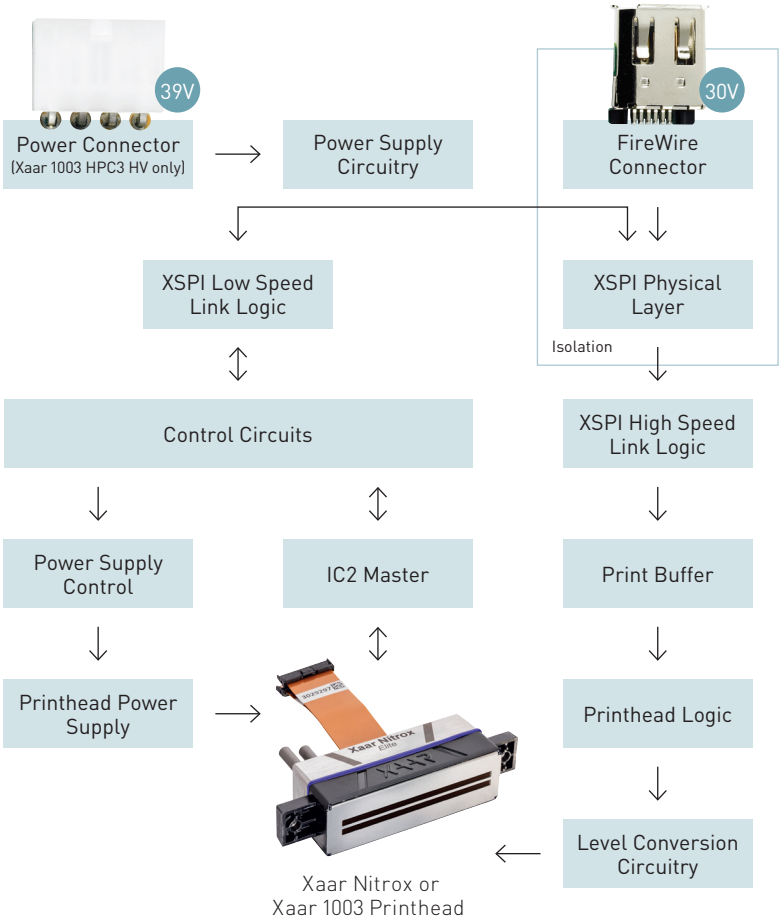
The Xaar HPC 1000 block diagram (right) **shows the key functional modules of the Xaar HPC 1000 architecture.**

The Xaar HPC 1000 is designed to:

- Pass timing commands for print triggering to Xaar Nitrox or Xaar 1003 printheads
- Convert the print data received over the XSPI High Speed Link to the format required for the Xaar Nitrox or Xaar 1003 printheads. The High Speed Link maintains low latency and reduces jitter
- Provide control signals and voltage supplies to the Xaar Nitrox or Xaar 1003 printheads. This ensures the correct power sequencing
- Provide feedback from the printhead and Xaar HPC 1000 to the XPM.

The XSPI cabling and interconnect are physically compatible with the IEEE 1394 specification and is a cost effective solution.

The Power Supply Control block maintains sixteen (16) independently controllable power supplies for the drive channels embedded within the printhead, enabling voltage trimming in blocks of 64 nozzles for uniform drop volume and velocity.



Generic system design

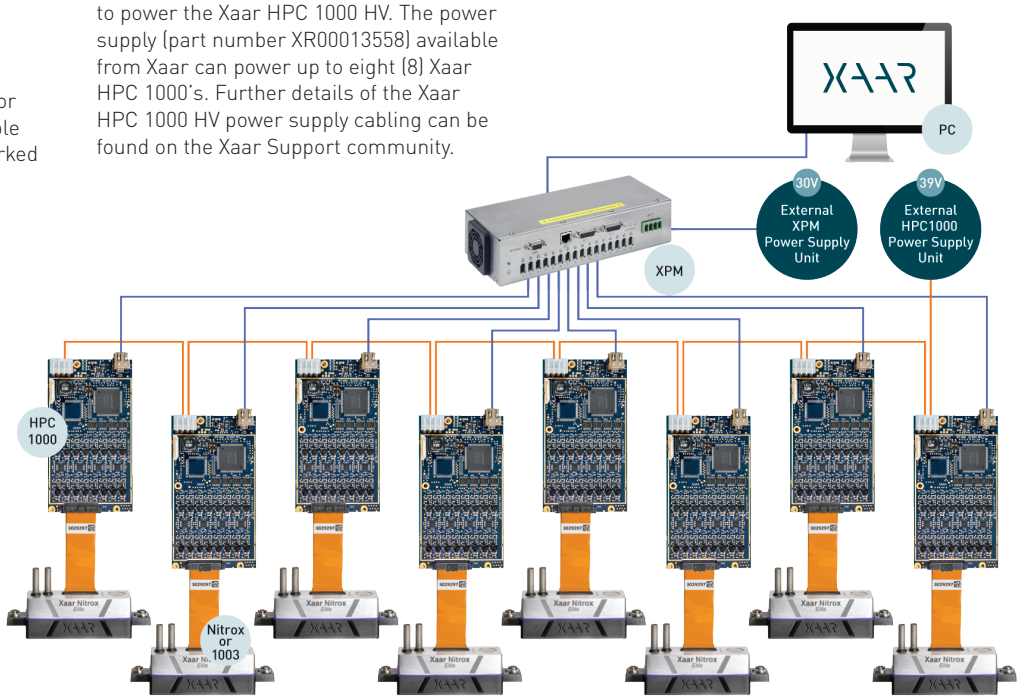
Xaar offers a scalable data path solution. An example of a typical Xaar inkjet print chain is shown in the diagram below.

The Xaar HPC 1000 connects directly to the Xaar XPM drive electronics via the Xaar Serial Printhead Interface (XSPI). Power for the Xaar HPC 1000 is supplied by the same IEEE1394 cable used to transport data to and from the XPM; the Xaar HPC 1000 HV requires an external Power Supply Unit (PSU).

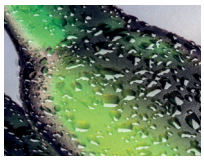
XPM is available in two configurations: XPM 12 or XPM 16 which can drive 12 or 16 HPC 1000 cards respectively. Multiple XPMs can be easily and reliably networked together using off-the-shelf Ethernet switches.

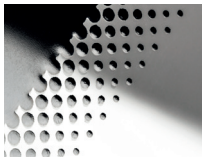
A PC running Windows is used to control the complete inkjet printer system and provides the graphical interface to the end user. The XPM connects via Gigabit Ethernet Connections to the OEM Windows based PC and both are controlled by the Xaar Print Manager software supplied by Xaar.

An external 39V power supply is required to power the Xaar HPC 1000 HV. The power supply (part number XR00013558) available from Xaar can power up to eight (8) Xaar HPC 1000's. Further details of the Xaar HPC 1000 HV power supply cabling can be found on the Xaar Support community.



XAAR HPC 1000





Xaar HPC3 Specification	
Power supply	
Xaar HPC 1000 HV Input voltage (Dedicated power connector)	39V DC, 2.1A
Xaar HPC 1000 Input voltage (FireWire connector)	30V DC, 1.5A
Input power (max)	97.5W
HV voltage per output	Up to 35V DC
HV current per output	125mA @ 35V DC
HV power per output	4.4W
HV total power	70W
Physical characteristics	
Height	125mm
Width	66mm
Depth	20mm
Weight	200g
Operating temperature	0°C to 40°C
Humidity	85% RH (non condensing)
Storage temperature	0°C to 65°C
Connections	
Power input	1 x IEEE 1394, 1 x 4-way socket
Data and power to printhead	2 x 50 way – FCC-FPC
Data input	Xaar Serial Peripheral Interface
Software	Xaar Print Manager Suite

The Xaar HPC 1000 complies with European EMC directives. However any system incorporating the Xaar HPC 1000 must be independently tested for EMC conformity. Please refer to the Xaar Support Community, https://xaar.force.com/community for more details on the Xaar HPC 1000.

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