

# XAAR HPC 2000 HV

## PRODUCT GUIDE

### Overview

The Xaar Head Personality Card 2000 HV (Xaar HPC 2000 HV) provides optimal and dependable data communication between a Xaar 2001+, Xaar 2002 and Xaar Aquinox printheads and the remainder of the digital inkjet print management chain.

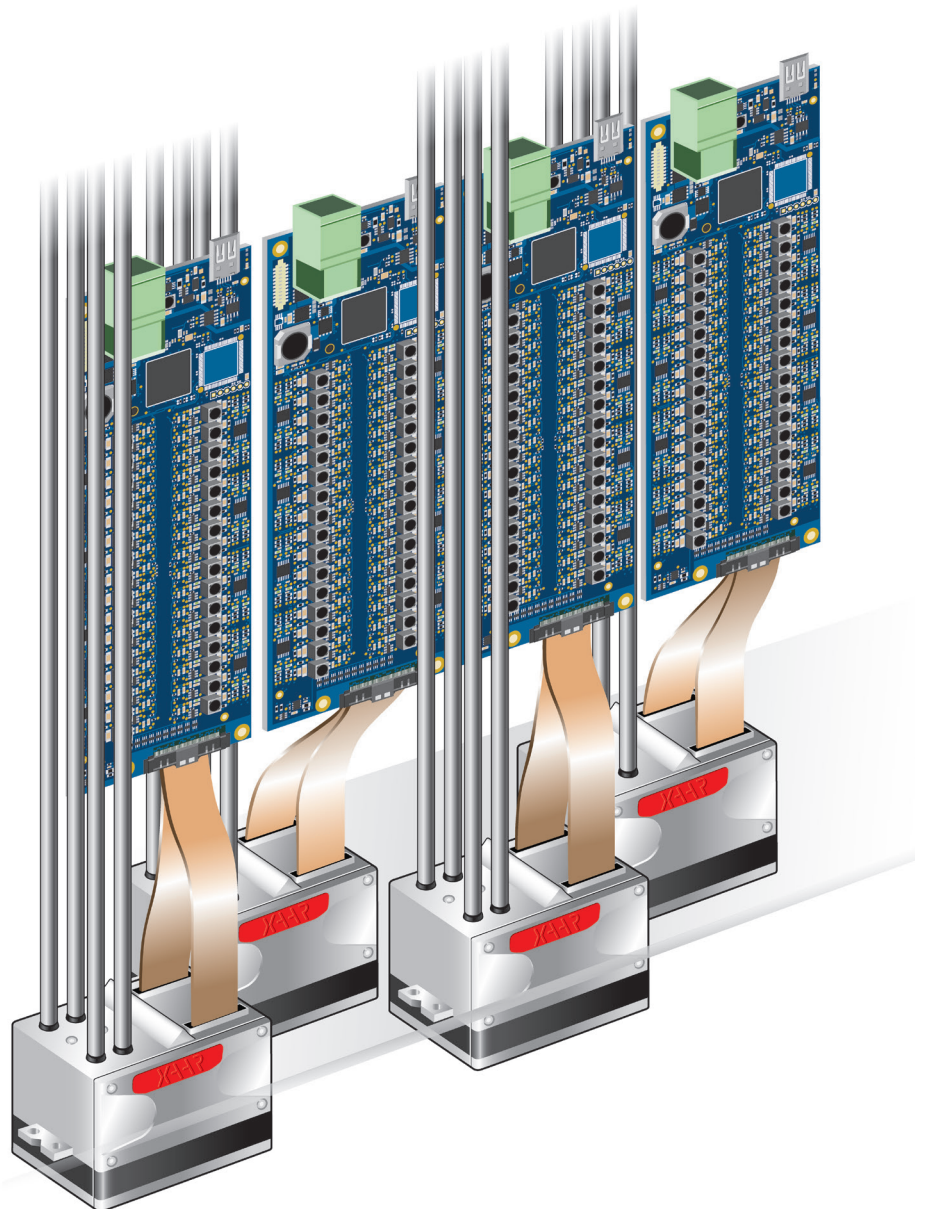
This proven solution significantly reduces costs and risks faced by Original Equipment Manufacturers (OEMs) developing bespoke printing systems leading to a faster time-to-market.

The Xaar HPC 2000 HV is extremely mechanically robust and reliable, and has the same footprint as the Xaar 2001+ HPC. The Molex connector ensures precise alignment with the Xaar printhead and the inherent locking mechanism prevents accidental disconnection.

# XAAR HPC 2000 HV

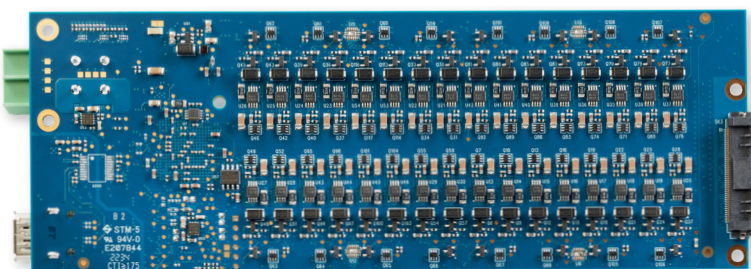
The Xaar HPC 2000 HV's narrow form factor (width) allows for flexibility in the design of the print bar. The Xaar HPC 2000 HV can be located directly above the printhead and accessed via the printhead aperture which means that maintenance is easy.

Two diagnostic LEDs provide an immediate indication of system, print and power status.



The Xaar HPC 2000 HV supports all variants of the Xaar 200x series and Xaar Aquinox printhead for systems operating at up to 32 kHz\*. It is part of Xaar's range of system components which includes the XPM and Xaar's Hydra. The range is designed to optimise the performance of Xaar printheads and to provide system components that are easy to configure and integrate, reducing time-to-market.

\*For systems operating at frequencies above 32 kHz using the Xaar Aquinox printhead, we recommend using a third party solution, like the HDC-H2000 from our partner Meteor.



PART NAME: XAAR HPC 2000 HV  
PART NUMBER: XP55500054

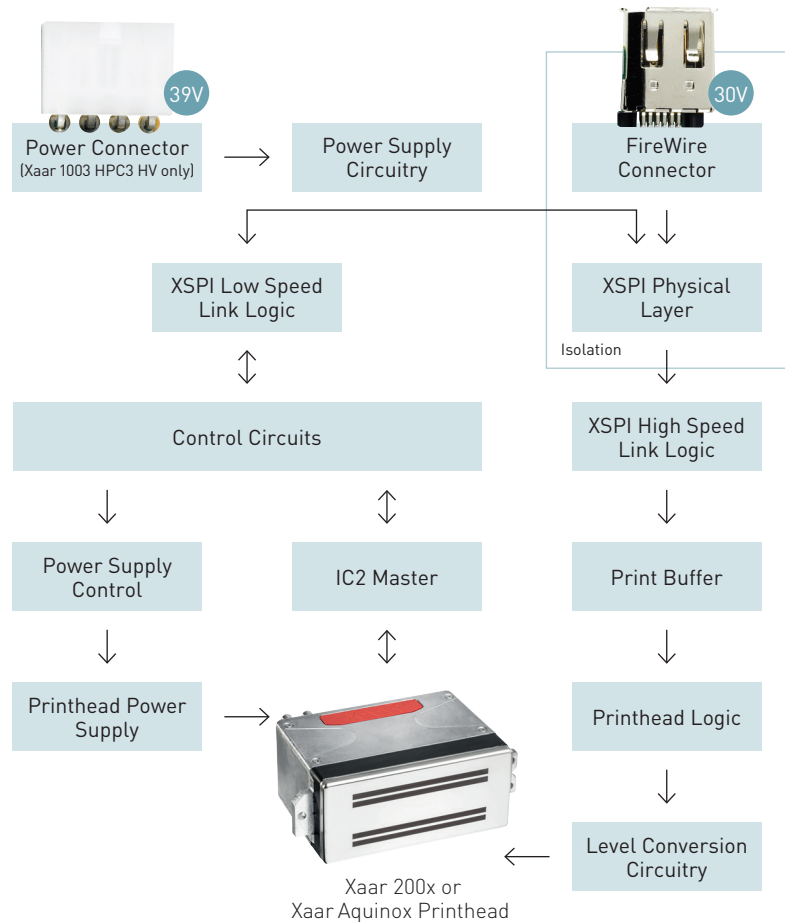
# Xaar HPC 2000 HV

The Xaar HPC 2000 HV block diagram (right) shows the key functional modules of the Xaar HPC 2000 HV architecture.

The Xaar HPC 2000 HV is designed to:

- Pass timing commands for print triggering to the Xaar 200x series and Xaar Aquinox printheads
- Convert the print data received over the Xaar Serial Printhead Interface (XSPI) High Speed Link to the format required for the Xaar 200x series and Xaar Aquinox printheads. The High Speed Link maintains low latency and reduces jitter
- Provide control signals and voltage supplies to the Xaar 200x printheads. This ensures the correct power sequencing
- Provide feedback from the printhead and Xaar HPC 2000 HV to the Xaar Printhead Manager (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 thirty two (32) 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 2000 HV connects directly to the Xaar XPM drive electronics via the Xaar Serial Printhead Interface (XSPI).

The Xaar XPM is available in two configurations:

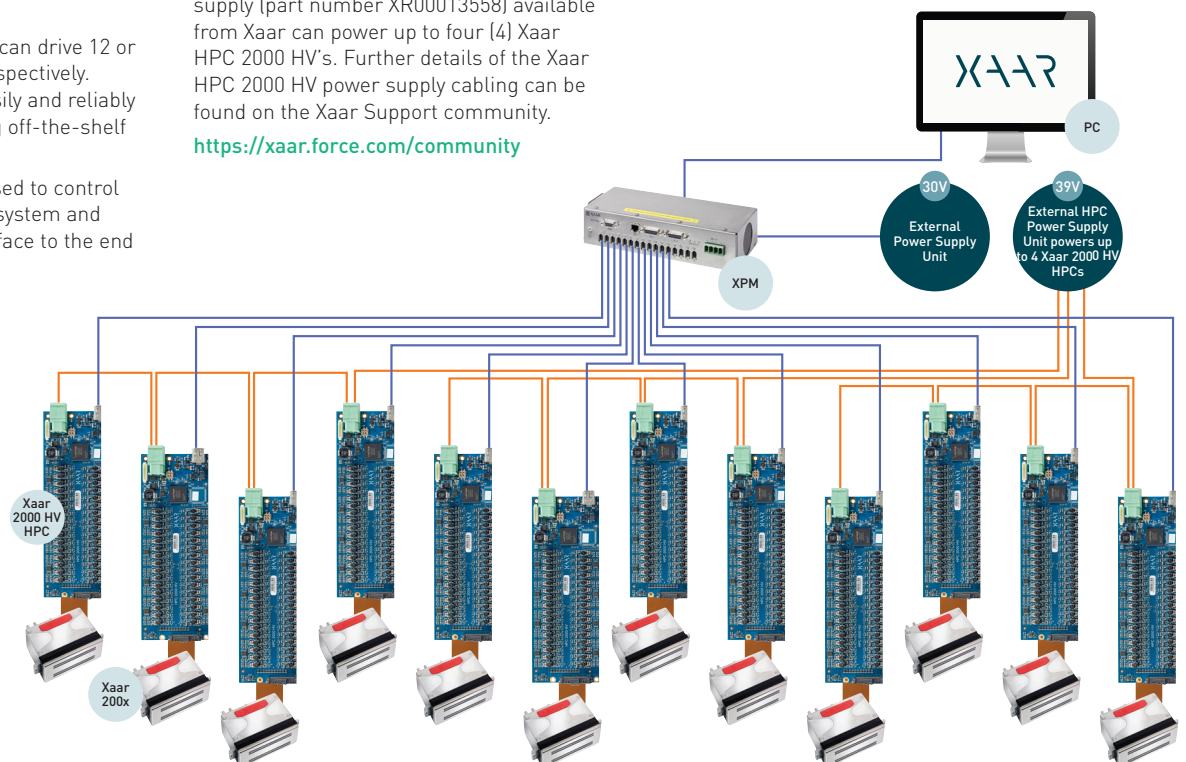
- XPM 12 or XPM 16 which can drive 12 or 16 HPC 2000 HV cards respectively. Multiple XPMs can be easily and reliably networked together using off-the-shelf Ethernet switches.

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 2000 HV. The power supply (part number XR00013558) available from Xaar can power up to four (4) Xaar HPC 2000 HV's. Further details of the Xaar HPC 2000 HV power supply cabling can be found on the Xaar Support community.

<https://xaar.force.com/community>



# Xaar HPC 2000 HV



## Xaar HPC2000 HV Specification

### Power supply

Xaar HPC 2000 HV Input voltage (Dedicated power connector)	39V DC, 4A
Xaar HPC 2000 HV Input voltage (FireWire connector)	30V DC, 1.5A
Input power (max)	156W
Voltage per output*	Up to 35V DC
Current per output	125mA @ 35V DC
Power per output	4.4W
Total power	140W

### 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 2000 HV complies with European EMC directives. However any system incorporating the Xaar HPC 2000 HV must be independently tested for EMC conformity.

\* The printhead voltage may be limited to lower than this. The user should ensure the maximum printhead voltage is not exceeded.