

# GIS

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INKJET  
SYSTEMS

A NANODIMENSION DIVISION

# XAAR

## Product catalogue

GIS drive electronics for  
Xaar 1003 &  
Nitrox printheads



Overview

GIS electronics enable precise, scalable and reliable control of Xaar 1003 & Nitrox printheads using an indirect architecture on USB platform.

Designed for OEMs and machine integrators, the GIS solution combines compact printhead cards, high-capacity manager cards and the Atlas software platform to accelerate development while ensuring production-grade performance.

Key Benefits

High-fidelity waveform control: binary, greyscale and multi-pulse with fine slew-rate and amplitude shaping.

Scalable system architecture: compact USB2, high-capacity USB3.

Form factor printhead cards designed around the width of the printhead making ideal both for single head and large arrays.

Integrated safety and diagnostics: temperature monitoring, thermal cut-out and EEPROM readback.

Seamless integration with GIS Atlas® software, Professional and Server.

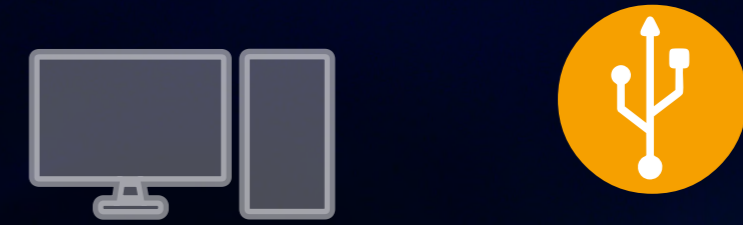
Supports Xaar's High Laydown mode

Architecture Overview

GIS implements an indirect architecture: the Printhead Card interfaces directly with the Xaar 1003 & Nitrox printhead, while a Printhead Card Manager handles data distribution, synchronisation and power management. Systems can be configured on the appropriate USB platform to suit throughput and scaling needs.

Xaar 1003 & Nitrox Printhead Card (InDirect) Configuration via USB

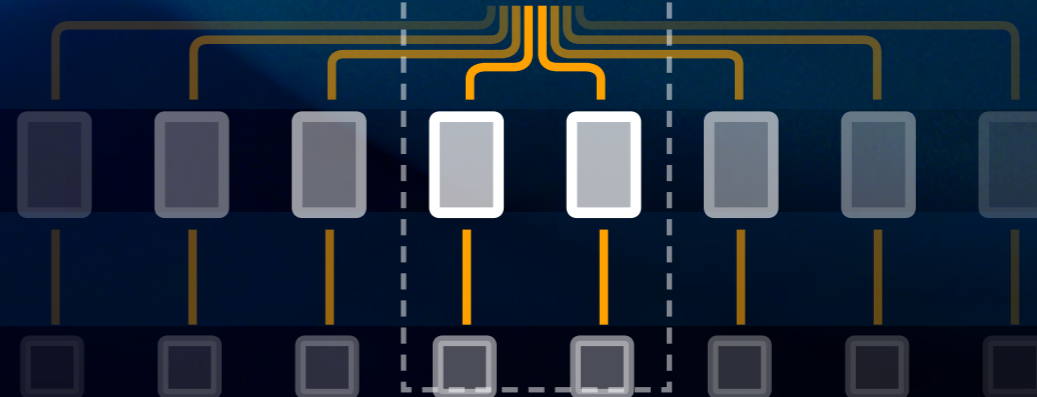
PC, Print Server + Atlas® Professional



**Printhead Card Manager**  
1200505 / 1200506 (Large)  
1200001 / 1200131 (Compact)

**Printhead Card**  
1200190

**Printhead**

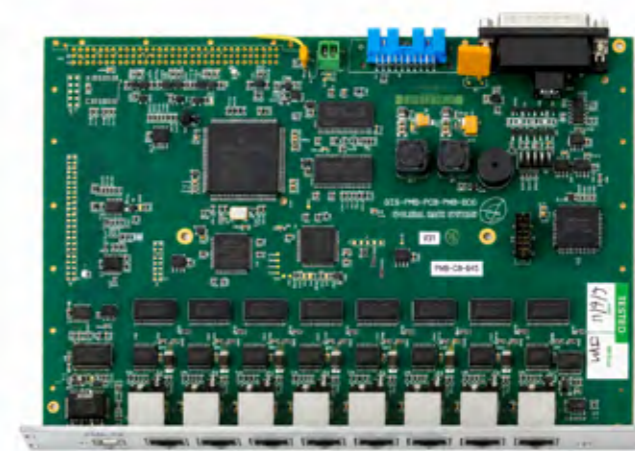


Compact platform for up to 2 printheads per manager\*  
High-capacity platform for up to 8 printheads per manager\*

\*Maximum achievable printheads may be limited by data rate, firing frequency and power consumption.



Printhead Card Manager (Compact) 1200001



Printhead Card Manager (Large) 1200505

**USB Platform**

Printhead Card (Product code: 1200190); each printhead card can drive one Xaar 1003 or Nitrox printheads. The card exposes all standard Xaar settings with precise control of waveform shape across time-slices. A compact form factor supports both small systems and large arrays.

Supported printheads	Xaar 1003 & Nitrox
Max printheads per card	1
Power supply	24V DC, 4A max
Dimensions (H×W×D)	98 × 100 × 15mm
Weight	90g
Waveforms	Binary, greyscale and multi-pulse
Monitoring & safety	Printhead temperature monitoring; thermal cut-out
Diagnostics	Printhead EEPROM readback
Cable length: PC → Manager	Up to 5m
Cable length: Manager → Card	Up to 10m
Software compatibility	Print Server, Atlas® Professional for Print Server

**Compatible Components**

- Product detect / encoder modules.
- Ink delivery system components for high flow to Xaar 1003 & Nitrox printheads.



Type	Product codes	Max connected Printhead Cards	Notes
USB2 (Compact System)	1200001 (uncased) / 1200131 (cased)	2	Compact platform for up to 2 Xaar 1003 & Nitrox printheads per manager*
USB3 (Large System)	1200505 (uncased) / 1200506 (cased)	8	High-capacity platform for up to 8 Xaar 1003 & Nitrox printheads per manager*

\*Maximum achievable printheads may be limited by data rate, firing frequency and power consumption.

**Connectivity & Cabling - USB**

**Data:**

- PC to Printhead Card Manager > up to 5m
- Printhead Card Manager to Printhead Card > RJ45 CAT6a shielded cabling (up to 10 m)

**Power:**

- 12V DC (USB2 Compact) or 24V DC (USB3 Large) to supply the Printhead Card Manager.
- No separate printhead PSU required.

**GIS** Ordering Information

Speak to our experts for guidance on how to configure your system to your exact needs, the part codes for this example system are below:

Printhead Variants Supported include: Xaar 1003 GS6, GS12, GS40, AMp, AMx, Xaar 1002 GS6, GS12, GS40, Nitrox Core, Pro and Elite

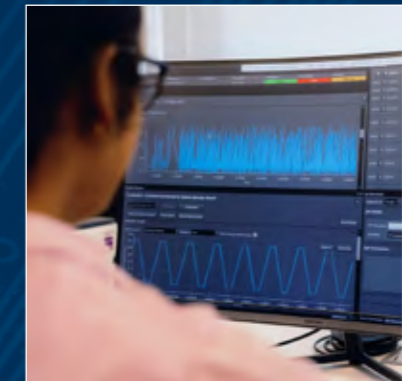
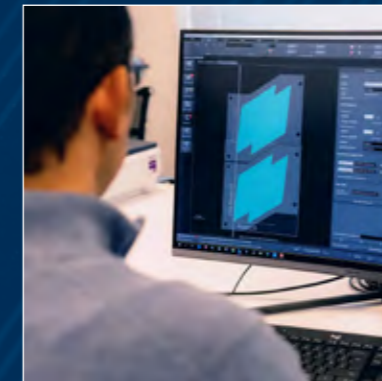
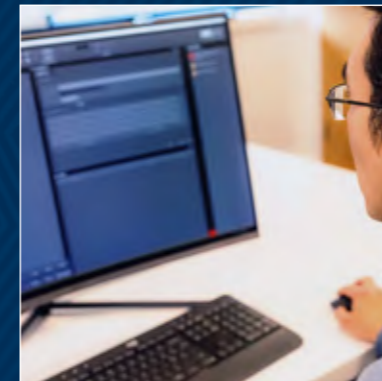
Category	Product	Code
Printhead Card (USB)	Xaar 1003 & Nitrox	1200190
USB Printhead Card Manager (Compact)	Uncased / Cased	1200001 / 1200131
USB Printhead Card Manager (Large)	Uncased / Cased	1200505 / 1200506

**GIS** Notes & Disclaimers

- Specifications are subject to change without notice.
- Performance characteristics depend on system configuration, ink and operating conditions.
- All trademarks are the property of their respective owners. Atlas® is a registered trademark of Global Inkjet Systems (GIS).

**GIS** Software – Atlas® Platform

Atlas® is a software platform for the rapid development of industrial inkjet user interface and machine control systems. Atlas® can control a complete machine or act as a component in larger systems. Its unique modular and open design allows you to customise, as well as to integrate additional tools to enable a quicker route to market for your product. Developed by GIS using the latest Microsoft .NET platforms, Atlas® comprises a flexible user interface platform (Atlas® User Interface), as well as machine control services (Atlas® Control Software), a powerful server technology for managing the entire printing and sub-system process.



**GIS** Ink Management Systems

GIS ink management systems provide controlled ink supply, pressure regulation and flow management for industrial inkjet systems. Designed to support stable jetting across a wide range of printhead technologies, they can be configured for different flow requirements, ink types and machine architectures. GIS can advise on the appropriate ink delivery configuration to match the selected printhead, application and production environment.





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## Speak to GIS

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