

GIS

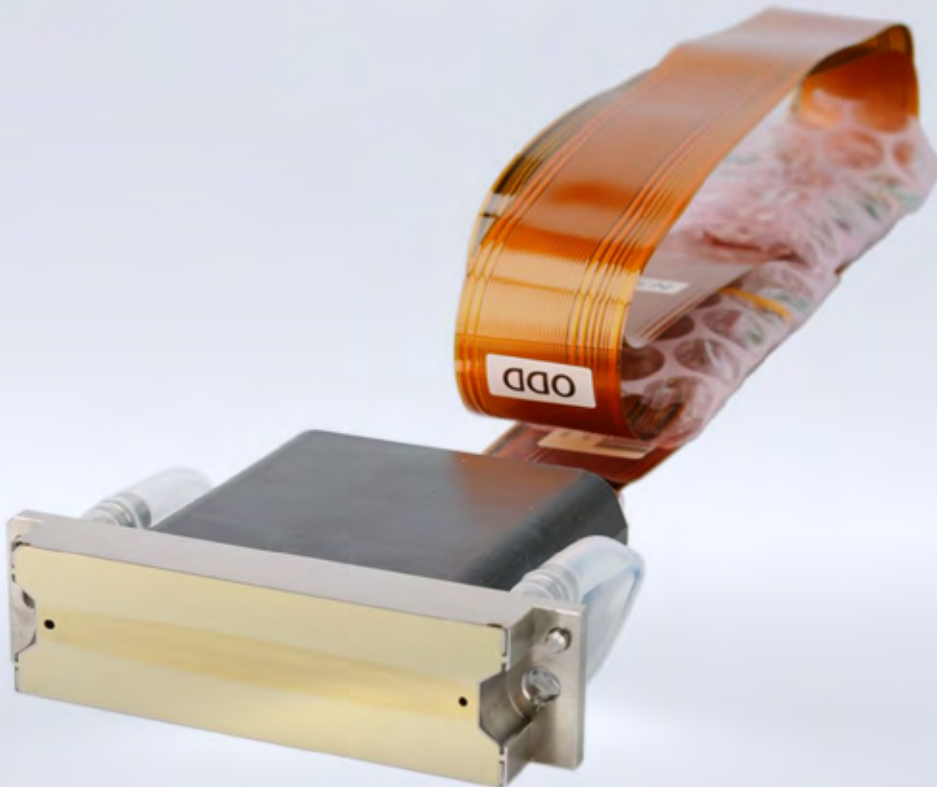
GLOBAL
INKJET
SYSTEMS

A NANODIMENSION DIVISION

RICOH
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Product catalogue

GIS drive electronics for
Ricoh Gen4 &
Gen4L printheads



Overview

GIS electronics enable precise, scalable and reliable control of Ricoh Gen4 & Gen4L 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.

Architecture Overview

GIS implements an indirect architecture: the Printhead Card interfaces directly with the Ricoh Gen4 & Gen4L 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.

Ricoh Gen4 & Gen4L Printhead Card (InDirect) Configuration via USB

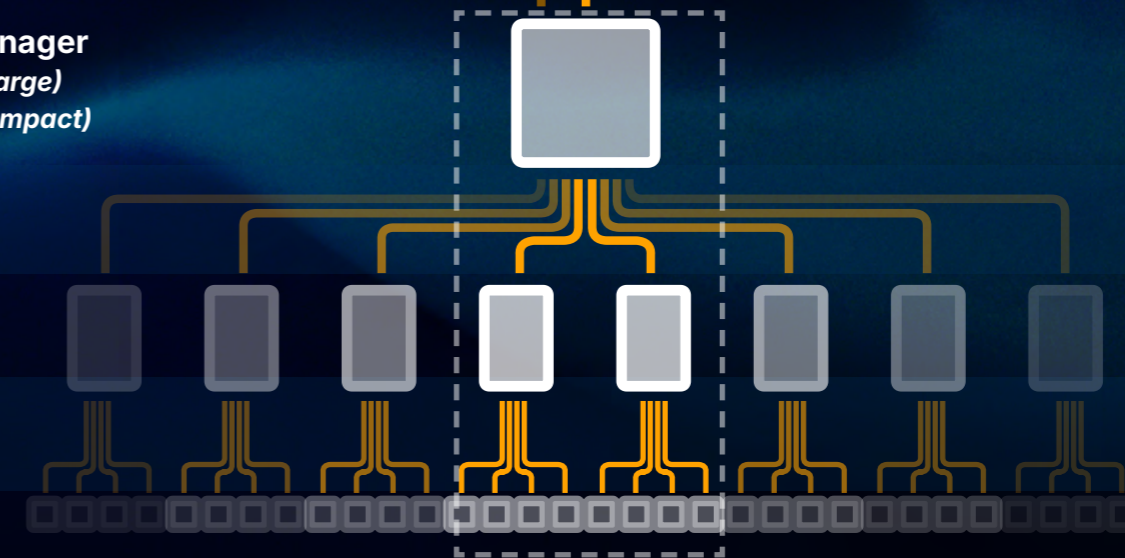
PC, Print Server + Atlas® Professional



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

Printhead Card
1200042

Printhead



Compact platform for up to 8 printheads per manager*
High-capacity platform for up to 32 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

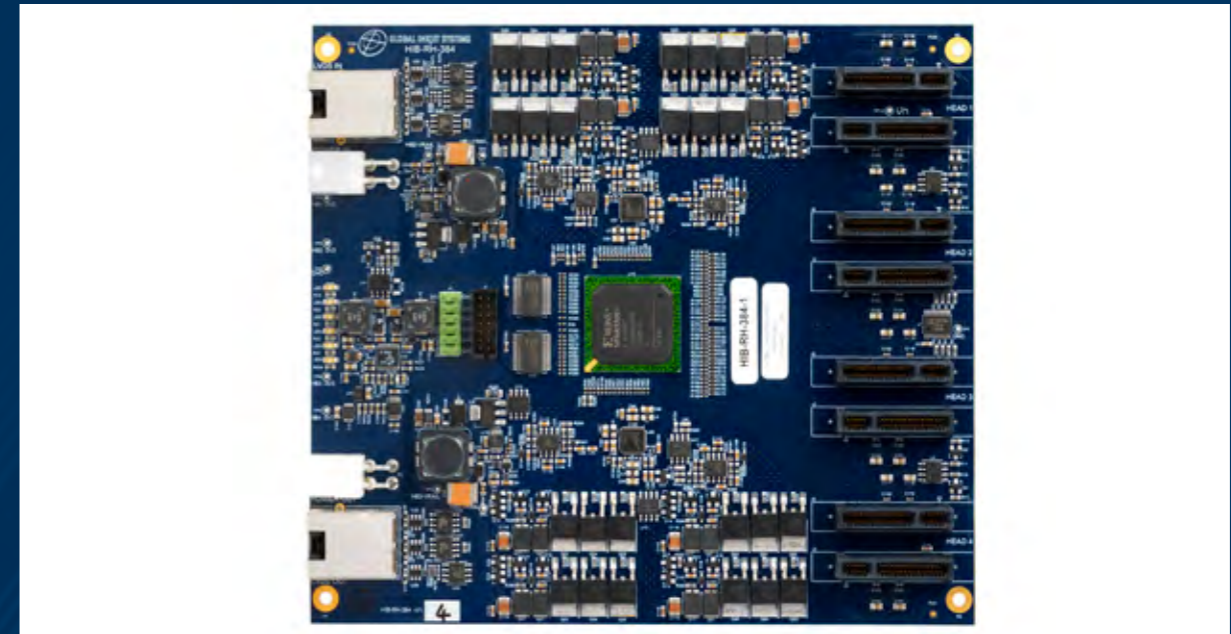
USB Platform

Printhead Card (Product code: 1200042); each printhead card can drive up to four Ricoh Gen4 & Gen4L printheads. The card exposes all standard Ricoh settings with precise control of waveform shape across time-slices. A compact form factor supports both small systems and large arrays.

Supported printheads	Ricoh Gen4 & Gen4L
Max printheads per card	4
Power supply	24V DC, 4A max
Dimensions (H×W×D)	160 × 144.5 × 23mm
Weight	197g
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 controlled flow to Ricoh Gen4 & Gen4L printheads.



Printhead Card 1200042

Type	Product codes	Max connected Printhead Cards	Notes
USB2 (Compact System)	1200001 (uncased) / 1200131 (cased)	2	Compact platform for up to 8 Ricoh Gen4 & Gen4L printheads per manager*
USB3 (Large System)	1200505 (uncased) / 1200506 (cased)	8	High-capacity platform for up to 32 Ricoh Gen4 & Gen4L 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:

Printheads variants supported include: Gen4 (MH2420), Gen4L (MH2620, MH2820)

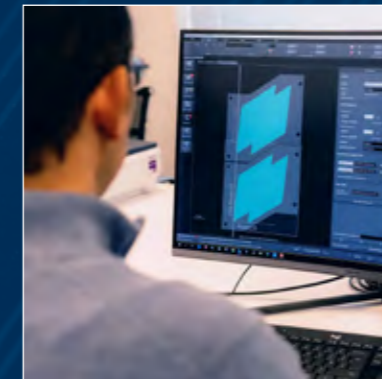
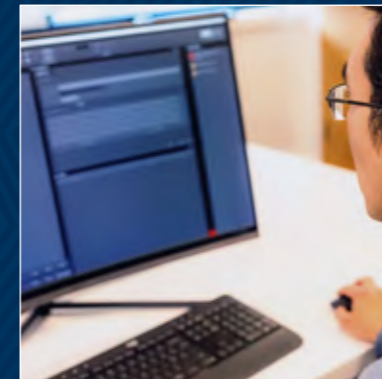
Category	Product	Code
Printhead Card (USB)	Ricoh Gen4 & Gen4L	1200042
USB Printhead Card Manager (Compact)	Uncased / Cased	1200001 / 1200131
USB Printhead Card Manager (Large)	Uncased / Cased	1200505 / 1200506

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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